

# *American* FORESTS

MARCH 1954

50 CENTS

TRAIL RIDERS OF THE WILDERNESS  
See Page 31



Here's why an **AUSTIN-WESTERN** power grader  
gives you **30%** more power at the blade  
and **twice** the maneuverability



Much of the time, All-Wheel Drive and All-Wheel Steer work as a team to provide **CONTROLLED TRACTION**. In this position, the rear drivers push behind the toe of the blade; the front drivers pull ahead of the heel of the blade, and the machine moves straight ahead with a load on its blade that would cause the ordinary grader to become unmanageable.

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first or second gear where real earthmoving is done, an all-wheel drive machine has 30 percent more power-at-the-blade than one with rear drive only.

With its ability to steer both ends of the machine in the same direction or opposite directions, the Austin-Western Power Grader has twice the maneuverability of other graders; works around short-radius curves impossible for machines with front steer only; turns easily on narrow roads and trails, and maneuvers more closely around culverts, bridges and other obstructions.

Spring and Summer, Fall and Winter, the A-W Power Grader outperforms all other motor graders . . . on all types of work, and under all conditions.

## Austin-Western

Power Graders • Motor Sweepers  
Road Rollers • Hydraulic Cranes



Construction Equipment Division

Manufactured by  
**AUSTIN-WESTERN COMPANY**  
Subsidiary of Baldwin-Lima-Hamilton Corporation  
AURORA, ILLINOIS, U.S.A.

One of a series of advertisements appearing in several national magazines in the interest of better public understanding of tree farming and the forest products industry.



GREAT BALD EAGLES nesting high above a Douglas fir tree farm in the Pacific Northwest. Selected areas of timber have been clear-cut and blocks of mature trees left near by as a seed source to grow a new crop.

## tree farmers grow wood to build homes for a nation...

*Tree farms can supply an endless flow of wood to build homes like this one made of West Coast lumber. Inside or out, wood offers individuality, beauty and economy.*



Tree farmers are managing privately owned forestlands so that there will always be a supply of wood products for home building and other uses. Since timber is a renewable resource, it is being grown and harvested as a crop . . . like wheat or corn. All across America, new crops of trees for tomorrow are replacing those harvested for today's needs. Tree farmers are assuring an uninterrupted wood supply for the years ahead by balancing timber growth and harvest and by protecting their forests against fire, insects and disease.

Wood is America's favorite building material, more popular today than ever because its variety of beautiful finishes and textures are in keeping with modern trends. It is easily adaptable to any building or remodeling plan, offering superior qualities of insulation and durability.

A perpetual wood supply is the objective of more than 4,600 tree farmers who operate about 29 million acres of industrial timberland. All Weyerhaeuser Timber Company operating forestlands are managed as certified tree farms. Write us at Box A, Tacoma, Washington, for a free copy of our colorful booklet, *Tree Farming in the Pacific Northwest*.

**Weyerhaeuser Timber Company**



Volume 60  
No. 3  
March, 1954

# American FORESTS

James B. Craig, Editor  
Dorothy B. Thompson, Editorial Assistant

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PUBLISHED BY THE AMERICAN FORESTRY ASSOCIATION

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**COVER •** If you think we're rushing the season with the photo on this month's cover, take another look at your calendar. True, it isn't quite time for that vacation yet, but the planning of it shouldn't wait much longer. If you like to take your holidays in the untrammeled out-of-doors, like the riders on our cover pausing beneath towering Mt. Rainier, in Washington, may we suggest that you investigate the AFA-sponsored Trail Riders of the Wilderness. You'll find a complete description of Trail Rides beginning on page 31.

### THE AFA

The American Forestry Association, publishers of AMERICAN FORESTS, is a national organization—-independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and their part in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

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## Letters

### Misusing the Mantle

EDITOR:

Although I very rarely write "letters to the editor" I have intended to at least send a postcard to compliment you on your publication; now I note an item in the January issue that impels me to hack out a communication on this old portable.

On page 56 (January issue) you noted the forming of a new forestry group and gave an outline of some basic principles as given by a Mr. (Anthony W.) Smith of the CIO. The very first one listed was "Direct federal regulation of cutting of all timberlands owned or operated by the larger private holdings."

The writer of this letter has never engaged in logging or lumber operations either as owner or employee and has no financial interest in any such operation; he is a small farmer and landowner in a section of the California coast country in which there has been a tremendous increase in logging and he sees its activities all about him.

This new outfit takes the name Forest Conservation Society but the above statement by Mr. Smith makes this small fry wonder what he knows about conservation. From direct observation it appears around here that the only loggers who can even spell the word "conservation" are the larger operators. The wasteful logging, depletion of stands, consequent soil erosion where these small operators come in to clean up quick are terrific and even those few who try to do a good job usually have a high loss percentage in the milling itself because they cannot make use of the mill waste—so the sky, all summer, is filled with columns of smoke from the burners. We were able to get a whole winter's wood supply for our home in about two days by hauling a lot of mill ends from a nearby mill.

If it is wrong to be big I cannot see that the "big" fellow is any more admirable if he has a government title than if he is an employee of a privately-owned corporation. The statements quoted as from Mr. Smith are quite revealing when read in connection with column headed "Points of View" in the December issue. I have never known much about the late Gifford Pinchot but somehow I have a strong feeling that he knew a lot more about forestry and conservation than some of those who are now wrapping his mantle about them.

Arthur H. Folger  
Healdsburg, California

### On Being Constructive

EDITOR:

My attention has been called to the editorial in the November 1953 issue of your magazine entitled "It's Time that the Twain Shall Meet."

I find in this editorial a most commendable attitude and approach to the problems inherent in the management of our natural resources. As one who has been subject at times to the "rather shrill business" mentioned in your editorial, I welcome the more conciliatory approach evi-

(From page 4)



Model D widening, ditching and grading six miles of road up to Bill's Butte Fire Lookout Tower. Grader is owned jointly by Oregon Dept. of Forestry and Coos County Forest Protective Assn.

# model **D** proves itself able, versatile grader for the woods



The many Allis-Chalmers Model D Graders in forestry and logging service have proved again and again that they have the power and capacity for outstanding service.

Now, for even greater performance ability, power for the Model D has been boosted to 50 brake hp. Also, leaning front wheels and power circle turn now are available (optional). With these and other big grader features such as tandem drive, ROLL-AWAY Moldboard, tubular frame and hydraulic blade lift — the Model D's original cost still is but one-third that of a large grader. Operating costs are low, too.

Let your Allis-Chalmers dealer demonstrate what the Model D can do for you.

Repairing washed out roads with a Model D to speed travel of logging trucks to mill. Grader is equipped with rear-end loader, and in winter with snowplow, to handle complete maintenance of more than twenty miles of road for Luke and Carlson, Amasa, Michigan.



ROLL-AWAY is an Allis-Chalmers trademark.

Interchangeable V or blade-type plows, hydraulically controlled, are available for the Model D. Blade also handles light dozing.



This Model D handles loading as well as road maintenance on school forest for Oregon State University, School of Forestry.

With  $\frac{5}{8}$  cu. yd. rear-mounted, hydraulically controlled bucket, the Model D easily loads any material to trucks, maintains stockpiles.



50 brake hp.—8,800 lb. (bare)—  
4 speeds to 25.6 mph., reverse 3.3. mph.

**ALLIS-CHALMERS**  
TRACTOR DIVISION • MILWAUKEE 1, U. S. A.

## Letters

(From page 2)

denced in this editorial. I hope with you that those "who congregate to lambast" will understand that criticism for its own sake gains nothing. Honest differences of opinion can be constructive if those who think differently will approach the problem with an open mind and a willingness to sit down together and examine the problems of conservation from a scientific as well as an empirical point of view. There has been too much willingness in the past to condemn, and too little desire to be constructive in the discussions on management of our great natural resources.

I want to express my appreciation for this constructive editorial.

Wesley A. D'Ewart  
U. S. Rep. Second District, Montana

### Small Woodlands

EDITOR:

Reference to the letter from C. R. Williams, Jr., The Hedges Farm, New Hope, Pennsylvania, in your January issue.

I think that Mr. Williams has pointed out a real need to give the small woodland owner very specific information about how and what to do to make a profitable woodland out of what we now have on many farms and in many owners of small properties. I am glad to hear that you plan to meet part of that need with "how to do" articles in the magazine in future issues.

In the meantime, I would like to call your attention (and Mr. Williams') to the fact that I have been working for the past three years preparing a book intended to do exactly what Mr. Williams is asking for. *Developing Farm Woodlands*, McGraw-Hill Book Company, January 1954 will, I believe, answer many of the problems met with by Mr. Williams and other owners of small woodlands. (See review, p. 57.)

John F. Preston  
Washington, D. C.

### Congratulations

EDITOR:

... I wish to congratulate you on the January issue of *AMERICAN FORESTS*. It is certainly well arranged and contains a great deal of excellent material. ... I was scheduled to represent Friends of the Land at the recent Resources for the Future meeting, but unfortunately was unable to be present. I was very sorry indeed that I had to miss that meeting as I understand it was an unusually good one.

Paul Bestor  
President, The Trust Company of  
New Jersey, Jersey City, N. J.

### Resources for Future

EDITOR:

... Thank you for an informative report on the Resources for the Future conference. Many of us were watching the development of this new organization with considerable interest. It occurs to me the organization provided a distinct service by giving over 1000 people in various lines of conservation work a good look at the other fellow's problem.

Joseph D. Perry  
Mobile, Alabama

### In the Trees Long Enough

EDITOR:

Having read abbreviated accounts about it in the newspapers, I was interested to see what *AMERICAN FORESTS* would have to say about the Resources for the Future meeting. On the basis of your article, it would appear to me that it got off to a good start and that it touched most of the bases as regards the renewable natural resources.

With the exception of a brief separate report on minerals, however, you failed to go into all the other resource categories reported on at this meeting and frankly I wish you had for I believe it would have performed a service and enabled thinking people to arrive at some important conclusions.

### CORRECTIONS

In the article by Dr. H. H. Chapman in the January issue of *American Forests* entitled "The Land Ownership Issue in East Texas," the following errors occurred:

The average price paid for cutover lands in Texas acquired by the Forest Service was \$4.62 an acre, not .62 as reported on page 40 in the article. The breakdown of funds paid to East Texas counties from national forests receipts from which one line was omitted, should have read in its entirety, "Of these sums, \$575,318 was paid in this fiscal year (1951-52) to the East Texas counties from the 25 percent fund, and \$230,127 was spent for roads, and trails, giving a total of \$805,445, or \$1.23 per acre, on 652,765 acres which has had only about 20 years to recover from denuded value of \$4.62 per acre when purchased (or in one year, a return of taxes of one-fourth of the purchase price), and which in 20 years more will be worth at least three times the present value, with a corresponding increase in subsidies to the counties."

Forest Service statistics uncovered since the publication of the article have also revealed that the average price paid for national forest stumpage in 1953 was \$37.36 per MBM for pine sawtimber instead of \$45.16 and that paid for pine pulpwood was \$3.30 per cord, not \$4.91 as reported in the article. *American Forests* regrets these errors.

In the January number of *American Forests* on page 62, it is stated under "What's News Across the Nation" that "Alfred M. Williams, Jr., has been named Secretary of both the Massachusetts Forest and Park Association and the New England Forestry Foundation." This is an error. Williams is Secretary of the former organization, but not of the latter. The new Secretary-Treasurer of the Foundation is John T. Hemenway of Boston.

I know that you people in forests, water, minerals, etc., all have your own little niches in the conservation scheme of things and perform capably in your own little puddles. I also happen to believe that it is time you broke out of those grooves and started looking at this whole, big resources problem as one related pattern. Why not change the name of your periodical to "Resources" and go about it in a comprehensive manner? Somebody ought to and I think you've been in the trees long enough.

Aaron Schindler  
Chicago, Illinois

### Chipman Hill

EDITOR:

The article "The Charm of Chipman Hill" by Viola White in the November, 1953, issue of *AMERICAN FORESTS* is delightful—the piece de resistance of a fine issue. How about more?

Madeline M. Sheridan  
Sacramento, California

(Editor's Note—Miss White is being brought back in a spring issue of *American Forests*, by popular demand.)

### The New Forest

EDITOR:

I and many readers of *AMERICAN FORESTS* would appreciate a series of illustrated articles on "Famous Forests of Great Britain" similar to the one in the January issue on the "New Forest." I was in the "New Forest" last summer; also the "Epping Forest." I am sure that the other forest areas, famous in history in old England, and possibly on the Continent, would be a valuable feature in your publication. Are you planning such a series?

Dr. Ernest K. Thomas  
Rhode Island Horticultural Society  
Providence, Rhode Island

(Editor's Note—We can't promise a series on the forests of England and the Continent at this time but Dr. Thomas will be interested to know that Author Peet has written a series on "Famous Forests" of the world for forthcoming issues.)

### New Year's Message

EDITOR:

I have read with a good deal of interest Mr. Johnston's (AFA President Don P. Johnston) New Year's message in the January issue of *AMERICAN FORESTS*. It is a clear, concise statement, but in an entirely friendly way, let me point out that I think it is guilty in one respect of a sin of omission. This pertains to the last paragraph which states:

"It occurs to me that the public agencies, both federal and state as well as the many organizations interested in the general subject of wise-use conservation, have generally adopted a realistic attitude of planning and working for the future."

Should not this sentence have included some reference to private owners who, in my mind, are the most important element in this equation which will guarantee us forest abundance? It is here that the great-

(Turn to page 60)

# THE BOOK SHELF

## THE AMERICAN FORESTRY ASSOCIATION

Knowing Your Trees—Collingwood & Brush	\$ 5.00
Teaching Conservation—Beard	1.50
Managing Small Woodlands—Koroleff & Fitzwater	1.00
Trees Every Boy and Girl Should Know	.50
Proceedings, Fourth American Forest Congress	3.00

## TREES

Arboretums and Botanical Gardens of North America—Wyman	\$ 1.50
Cultivated Conifers of North America—Bailey	12.00
Field Book of American Trees and Shrubs—Mathews	3.95
Forest Trees of the Pacific Coast—Eliot	5.50
Handbook of the Trees of the Northern States and Canada—Hough	6.50
Home Book of Trees and Shrubs—Levison	10.00
Illustrated Guide to Trees and Shrubs—Graves	4.00
Maintenance of Shade and Ornamental Trees—Pirone	7.00
Manual of the Trees of North America—Sargent	7.50
Meet the Natives—Pesman	2.25
Natural History of Trees of Eastern and Central North America—Peattie	5.00
Natural History of Western Trees—Peattie	6.00
Standard Cyclopedia of Horticulture—Bailey, 3 Vols.	40.00
Textbook of Dendrology—Harlow & Harrar	6.50
Trees for American Gardens—Wyman	7.50
Trees of Pennsylvania—Grimm	5.00
Trees of the Western Pacific Region—Kraemer	5.50
Your Forests—Bruere	2.75

## GENERAL FORESTRY

Forest Policy—Greeley	\$ 5.50
Forests and Men—Greeley	3.00
Indian Forest and Range—Kinney	4.50
Introduction to American Forestry—Allen	6.00

## FOREST MANAGEMENT

Aerial Photographs in Forestry—Spurr	\$ 6.50
Applied Silviculture in the United States—Westveld	6.00
Farm Wood Crops—Preston	4.50
Forest Inventory—Spurr	8.50
Forest Management—Chapman	6.00
Forest Management—Meyer, Recknagel & Stevenson	6.00
Forest Mensuration—Bruce & Schumacher	7.00
Forest Pathology—Boyce	7.50
Forest Valuation—Chapman & Meyer	6.50
Forestry and Its Career Opportunities—Shirley	6.50
Forestry in Farm Management—Westveld & Peck	5.00
Insect Enemies of Eastern Forests—Craighead	2.50
Management of Farm Woodlands—Guise	5.00
Principles of Forest Entomology—Graham	6.00
Principles of Nursery Management—Duruz	3.50
Tree Crops—A Permanent Agriculture—Smith	6.00

## LANDSCAPING AND CARE—GARDENS, TREES, FLOWERS

American Wild Flowers—Moldenke	\$ 6.95
Field Book of American Wild Flowers—Mathews	3.95
Gardening the Small Place—Clark	3.00
How to Landscape Your Grounds—Johnson	3.50
Plant Buyers Guide—Steffek	7.50
Shrubs and Vines for American Gardens—Wyman	7.50
Tree Experts Manual—Fenska	5.00
Wild Flower Guide—Wherry	3.50

## WOOD—ITS MANUFACTURE AND USE

Air Seasoning and Kiln Drying of Wood—Henderson	\$ 6.50
Coming Age of Wood—Glesinger	3.50
Concise Encyclopedia of World Timbers—Titmuss	4.75
Forest Products—Brown	5.50
Harvesting Timber Crops—Wackerman	6.50
Logging—Brown	5.50
Lumber—Brown	5.00
Mechanical Properties of Wood—Wangaard	7.50
Textbook of Wood Technology—Brown, Panshin & Forsaith, Vol. II	10.00

## BIRDS, WILDLIFE, HUNTING AND FISHING

Audubon's Birds of America—Vogt	\$ 8.95
Audubon Water Bird Guide—Pough	3.50
Birds Are Yours—Lemmon & Eckelberry	2.25
Field Book of Eastern Birds—Hausman	4.50
Field Guide to the Birds—Peterson	3.75
Field Guide to Western Birds—Peterson	3.75
Fish Ponds for the Farm—Edminster	3.50
Fisherman's Encyclopedia—Gabrielson & Lamonte	12.50
Fishery Science—Rounsefell & Everhart	7.50
Game Management—Leopold	7.50
Hunters Encyclopedia—Camp	17.50
Introduction to Birds—Kieran	2.95
Land and Wildlife—Graham	4.50
Mammals of North America—Cahalane	8.00
Our Desert Neighbors—Jaeger	5.00
Raising Game Birds in Captivity—Greenburg	5.95
Round River—Leopold	3.00
Saga of the Waterfowl—Bovey	5.00
Spining for Fresh and Salt Water Fish in North America—McClane	4.95
Trout and Salmon Fisherman for Seventy-Five Years—Hewitt	5.00
Wildlife Management—Gabrielson	4.50

## CAMPING

Alaskan Adventure—Williams	\$ 5.00
Book of Nature Hobbies—Pettit	3.50
Canoe Camping—Handel	3.00
Exploring Our National Parks and Monuments—Butcher (Paper \$2.50)	4.00
Field Book of Nature Activities—Hillecourt	3.95
Let's Go Camping—Zarchy	3.00
Outdoor Guide—Henderson	4.50
Outdoorsman's Cookbook—Carhart	2.49

## BOOKS OF GENERAL INTEREST

American Resources—Whitaker & Ackerman	\$ 7.50
Betty's Cabin—Barker	4.50
Conservation Yearbook 1953—Kauffman	5.50
Conservation in the United States—Gustafson, Guise, Hamilton & Ries	5.00
Conservation of Natural Resources—Smith	6.00
Hunger Signs in Crops—A Symposium	4.50
Legends of Paul Bunyan—Felton	5.00
Our Plundered Planet—Osborn	2.75
Our South—Evans & Donahue	3.50
Reclamation in the United States—Golze	8.00
Road to Survival—Vogt	4.00
Soil Conservation—Bennett	8.75
Tall Timber Pilots—White & Florek	3.50
Vegetation and Watershed Management—Colman	7.00
Water, Land and People—Frank & Netboy	4.50
Western Land and Water Use—Saunderson	3.75

Members of the Association are entitled to a discount of 10% from the publishers price of books on forestry, conservation and related subjects. The above is only a partial listing of such books and you are welcome to order others on the same subjects, whether listed or not.

## THE AMERICAN FORESTRY ASSOCIATION

919 - 17th Street N.W.  
Washington 6, D. C.

# Washington



# Lookout

By ALBERT G. HALL

AS PART OF THE OVERALL REDUCTION IN FEDERAL EXPENDITURES, the President's budget for the fiscal year ending June 30, 1955 makes reductions in a number of forestry items. Because, under the reorganized Department of Agriculture, there have been several shifts of functions to the Forest Service, the tables of 1954 estimates include amounts that in 1954 were appropriated to other agencies. With these included, however, it is possible to compare 1954 forestry expenditures with those proposed for 1955.

THE BUDGET REDUCTIONS POINT UP THE ADMINISTRATION'S determination to shift to the states and local people more of the financial responsibility for their forestry programs. For example, the budget for white pine blister rust control does not allow any federal funds for work on state and private lands, but does permit federal technical guidance. Similarly, in the state and private cooperation program under the Clarke-McNary Act, a reduction of half a million dollars is made in the fire prevention and control activities, and funds for state nursery operation and aids to individual forest owners and processors are completely eliminated.

ON THE OTHER HAND, NATIONAL FOREST RESEARCH ACTIVITIES are budgeted higher for 1955 than for 1954, with emphasis on forest genetics, development of insect survey techniques, fire control investigations, and products marketing research. Net result of the cuts and increases in the Forest Service budget amounts to a decrease of around \$7.4 million.

IN THE DEPARTMENT OF THE INTERIOR, the Bureau of Land Management has received an overall increase from \$13.8 million to \$15 million, reductions being offset by a \$1 million increase for timber access roads on the Oregon and California grant lands. The Bureau of Indian Affairs also is scheduled for an overall reduction in forestry expenditures, with the chief cuts coming in road and trail construction. The National Park Service budget remains nearly the same for forestry as in 1954.

TENNESSEE VALLEY AUTHORITY'S BUDGET for resource development, including \$450,000 for forestry work, is about the same as the previous year. In the case of TVA, these funds are met in part by direct appropriation and in part by authorization to utilize receipts from TVA operations.

THE ELLSWORTH BILL, H.R. 4646, TO PROVIDE FOR EXCHANGE of federal timber lands for private lands when the federal government finds it necessary to acquire private lands being managed on a sustained-yield basis, was sent back to the Committee on Interior and Insular Affairs on February 17 after two days of discussion on the floor of the House. The bill was much amended as a result of Congressman Ellsworth's attempts to perfect it along lines suggested by several groups that had originally opposed it.

NATIONAL FOREST GRAZING PROBLEMS COME A BIT CLOSER to solution: the Senate Committee on Agriculture and Forestry has reported the Aiken Bill, S. 2548, a companion bill to one by Representative Hope, and part of the Administration's program. The bill acknowledges the monetary rights of grazers to improvements made by them on federal ranges, grants protection against unwarranted reductions in grazing permits, and provides for appeals, review board decisions, and finally court action on matters of controversy between the grazers and the Forest Service. With the recently announced changes in Forest Service grazing policies, this bill promises peace on the range.



# FORESTRY ITEMS IN THE FEDERAL BUDGET

For Fiscal Year Starting June 25, 1954

	1954 Estimate	1955 Budget Request
<b>U. S. DEPARTMENT OF AGRICULTURE</b>		
<b>Forest Service</b>		
National Forest Protection & Management		
Resource protection and use	\$29,288,300	\$28,280,000
Resource development	1,385,000	655,000
Additional flood prevention	288,400	.....
Fighting Forest Fires	6,000,000	6,000,000
Control of Forest Pests		
White pine blister rust	2,986,354	2,430,000 <sup>a</sup>
Forest pest control	2,300,000	2,585,000
Forest Research <sup>b</sup>		
Forest and range	2,898,794	3,094,630
Forest protection	1,042,704	1,242,704
Forest products	1,231,318	1,231,318
Forest resources	939,848	959,848
Forest Roads and Trails	14,500,000	16,000,000
Timber salvage access (Mont. & Ida.)	5,000,000	.....
State and Private Cooperation		
Fire control	9,449,500	8,968,300
Tree planting	447,061	.....
Forest management and processing	632,429	.....
General forestry assistance	154,700	154,700
Transfers to Extension	109,018	See Extension
Cooperative Range Improvements	531,000	281,000
Acquisition	75,000	.....
Total Annual & Definite Appropriations	\$79,259,426	\$71,882,500 <sup>c</sup>
Indefinite Appropriations (From Receipts)	29,341,352	29,485,587
TOTAL FOREST SERVICE	\$108,600,778	\$101,368,087
<b>Extension Service (Forestry Only)</b>		
Forestry Guidance—Federal	\$ 21,018	\$ 21,018
Payments to States & Territories Under Clarke-McNary Sec. 5	88,000	88,000
	109,018 <sup>d</sup>	109,018
<b>Watershed Protection—Dept. of Agric.</b>		
	\$ 5,000,000	\$ 5,000,000
<b>Flood Prevention—Dept. of Agric.</b>		
	\$ 7,000,000	\$ 5,739,000
<sup>a</sup> Includes \$360,000 for Department of the Interior. No funds for control on state and private lands, but technical guidance may be given.		
<sup>b</sup> Includes \$52,000 in 1955 for market research and service which in 1954 was carried under the Agricultural Marketing Act.		
<sup>c</sup> Total Forest Service now includes functions formerly provided for under Agricultural Marketing Act, Bureau of Entomology, Bureau of Plant Industry, Control of Forest Pests and Soil Conservation Operations, in 1954 amounting to \$6,861,000, which for comparison with 1955 is included in the 1954 Forest Service appropriations and estimates.		
<sup>d</sup> Formerly appropriated to Forest Service for transfer to Extension.		
<b>U. S. DEPARTMENT OF THE INTERIOR</b>		
<b>Bureau of Land Management</b>		
Management of Lands and Resources		
Forestry	\$ 2,507,500	\$ 2,623,540
Cadastral surveys	1,063,868	1,687,900
Soil & moisture conservation	1,725,000	1,718,472
Squaw Butte Expt. Sta.	38,000	38,000
Fire suppression	210,000	210,000
General administration	1,210,000	1,209,500
Other (land use & disposal, leasing, grazing, maintenance, weed control)	4,728,632	4,137,588
Total Lands and Resources	\$11,483,000	\$11,625,000
Access Roads (O & C)	2,000,000	3,000,000
Range Improvements	374,654	400,000
Total Bureau of Land Management	\$13,857,654	\$15,025,000
<b>Bureau of Indian Affairs (Forestry &amp; Related Items Only)</b>		
Forest and range	2,178,584	2,085,000
Fire suppression	140,000	140,000
Maintenance roads & trails	2,020,000	2,270,000
Construction roads & trails	5,293,725	2,897,000
<b>National Park Service (Forestry &amp; Related Items Only)</b>		
Forestry & fire control	653,400	639,000
Roads	4,238,000	4,350,000
<b>TENNESSEE VALLEY AUTHORITY<sup>e</sup> (Resource Development Only)</b>		
	\$1,262,000	\$1,280,000 <sup>f</sup>

<sup>e</sup> In each year, one half is appropriated and one half is derived from TVA operating proceeds.

<sup>f</sup> Includes \$450,000 for forestry.

## WHERE AFA STANDS:

# Besley Scores Proposed Budget Cuts For Cooperative Forestry Activities

**C**ONCERN over the complete elimination of budget appropriations for state and private forestry cooperation (farm foresters) and federal assistance in forest tree planting was expressed by Lowell Besley, executive director of The American Forestry Association, in testimony which was delivered early in March before the House Subcommittee on Agricultural Appropriations hearings on the proposed 1955 budget for the U.S. Forest Service. A seven percent cut (two million dollars) for national forest management and protection and a five percent cut in funds for state fire control work and a failure to step up the appropriation for the Forest Survey were also scored as unrealistic by Mr. Besley.

"The American Forestry Association concurs in the overall aim of both the Administration and the Congress for greater efficiency and economy in the federal government establishment and in greater assumption of responsibility by local interests," Mr. Besley said. "In making adjustments towards these ends, however, there are pitfalls. It is false economy for a business and false economy for the federal government to allow its necessary working capital to deteriorate. The growing timber is the working capital of the national forests and must be maintained at a high level through wise harvesting, regeneration, protection and care if the forest land is to produce in proportion to its potentialities.

"Secondly, a modest federal program of cooperative assistance to states and private owners in protection against fire, in reforestation, and in forest land management has brought rich returns in increasingly greater assumption of responsibility in these fields by state and local agencies and individuals. . . . A gradual reduction in the federal reforestation and land management programs (fire does not recognize state integration) would be in line with the new federal policy. Sudden abandonment of the programs would cause the first flowers of local interest which are just beginning to bloom in some states to wither on the vine."

Providing the committee with copies of the Higgins Lake Report of

the AFA and the Proceedings of the Fourth American Forest Congress, Mr. Besley then proceeded to quote chapter and verse from these reports that reflect the thought of a wide representative cross section of people engaged in forestry work.

In urging restoration of \$632,429 for Forest Service cooperation with the states and \$477,061 for Forest Service tree planting activities in co-operating states, Mr. Besley quoted from an address by Secretary Benson at the Forest Congress. Mr. Benson said: "As basic policy, we want to continue the sound development of the national forests; and we want to aid and encourage and cooperate in the development of state and private forestry."

"This is one of the important phases of the three-pronged drive to do a better job of managing the nation's small forest properties," Mr. Besley said. "Elimination of the federal share of the work with the states will result in an abandonment of the work in many states where the financing is on a 50-50 basis. In some 30 states the blow will be serious and the woodland management work will stop or be seriously impaired. In other states, where additional state funds might be available, certainly some of the farm foresters will be dropped. . . . In any case, management on farm and other small woodland properties will be set back a number of years."

With reference to national forest protection and management, Mr. Besley said that a proposed budget reduction of over two million dollars (or nearly seven percent) will call for a considerable reduction in maintenance of improvements, in forest rangers, forest supervisors, and other multiple activity employees, in reforestation on national forests and various other activities.

Here again, Mr. Besley quoted from AFA's Proposed Program for American Forestry which urges acceleration of forest management activities on the national forests. Mr. Besley recalled that in answering a critic of Forest Service enforcement of timber sale contract clauses calling for better cutting practices on national forests, that Mr. Ed Cliff, assistant Forest Service Chief, replied at the Congress, "If we are deficient in this respect . . . it is due to the

fact that our field men are working their hearts out trying to get on top of the overload of work that most of them are laboring under."

If this is the condition now, the proposed budget will further aggravate an already serious situation, Mr. Besley said.

Mr. Besley also vigorously opposed a proposed five percent cut in federal funds for cooperation with the states in fire control as unrealistic after abnormally high 1952 and 1953 fire losses and in view of the fact that the forest protection pattern is spread extremely thin in many quarters.

The budget estimate proposal to continue the Forest Survey at the same rate as 1954, which was a 23 percent reduction in initial surveys and a 25 percent reduction of resurveys from the actual acreage surveyed in 1953, was scored by Mr. Besley who declared, "The American Forestry Association strongly urges that the 1955 Budget Estimate for Forest Resources Investigations be substantially increased to provide for a complete survey or resurvey of the nation's forestry situation at 10-year intervals. To complete the initial survey in 10 years would require survey of approximately 30 million acres per year instead of the 20 million acres provided for. And assuming that only commercially valuable forest lands will be resurveyed at average 10-year intervals, the annual resurvey job would be from 40 to 50 million acres instead of the 25 million acres provided for."

The AFA, said Mr. Besley, strongly endorses increases for forest roads and trails but questions whether a proposed increase of a million and a half dollars (or about 10 percent) will be sufficient to meet the most serious needs that exist. Quoting Chief Forester Richard E. McArdle to the effect that the five billion board feet of timber harvested annually on national forests is one-and-a-half billion feet short of the cut allowable, Mr. Besley said it would appear that greater not lesser expenditures for the various phases of national forest management, including timber access roads, would soon more than pay for themselves in larger receipts from timber sales now and in the future.

# EDITORIAL

## Turn on the Gumption

When Executive Director Lowell Besley appeared before the House Subcommittee on Agricultural Appropriations on March 2 to present AFA's views on the Forest Service budget estimates for 1955, he first presented committee members with copies of the Proceedings of the Fourth American Forest Congress. Mr. Besley then quoted from this bible of forestry, chapter and verse, to constructively support his testimony with the best possible authority—the combined brains of the biggest cross section of forestry thought in the nation.

What Mr. Besley had to say in essence was that all the present forestry programs are needed and that when all are combined together they still can't do too much. In accord with the aims of the administration in effecting needed economies, Mr. Besley warned that there are pitfalls, nevertheless, in making adjustments toward those ends. It would be false economy for a business or a government to allow its working capital to deteriorate, he warned. The growing timber is the working capital of the national forests and must be maintained at a high level if it is to produce in proportion to its potential, he said. Secondly, a modest federal program of cooperative assistance to states and private owners has brought rich returns, he continued. A gradual reduction of these services might be in line with the new federal policy, he said. Sudden abandonment would not.

The elimination of the farm forestry program as proposed in the budget estimates would be a serious blow to progress on farm woodlands and at odds with Department of Agriculture policy as stated at the Congress, he said. Elimination of the cooperative tree planting program would have an equally detrimental effect, he stressed. Endorsing proposed increases for forest research, Mr. Besley then proceeded to quote an impressive array of Forest Congress opinion to prove that a seven percent cut for national forest protection and management and a five percent cut for the cooperative fire control program would be unsound. A proposed 10 percent increase for access roads construction, while laudable, still isn't enough, he said.

As reviewed by Mr. Besley, the 1955 budget estimates for forestry would appear to be decidedly conservative. At the Forest Congress, administration spokesmen indicated that forestry represents one of the best gilt-edged investments a government can make. Mr. Sherman Adams even went so far as to say that if foresters didn't get what they needed for their forest programs they didn't have the gumption he thought they had.

Well, the time has come to turn on the gumption. We hope that foresters will display plenty of this admirable trait mentioned by Mr. Adams in going after what they think they should have.

## What Is the Forester's Role?

On a cross-country trek one can pretty accurately anticipate, in general, what the participants in any given segment of resources activity will have to report. But this certainly is not true in the case of the cross section of the general public one encounters. Their observations on the subjects in which you are most interested are apt to be encouraging, deflating and not infrequently startling, all at once. Invariably they are of interest and sooner or later their comments start falling into a pattern. The pattern of discussion on this particular junket might be entitled "The American Forester—What does the Public Think of Him?"

On the basis of people talked to, there is only one unanimous answer to that. The public thinks the American forester is "just great." It thinks so for a variety of reasons. First and foremost, the forester is esteemed as a fireman. ("Those boys were on the job night and day stopping that fire . . . didn't spare themselves.") Foresters plant trees. (" . . . they took Bud's Scout troop out and supervised while they planted trees in this burned-out area.") Foresters manage big recreation areas. ("My boy wasn't doing so well. Then he went in for camping. He met this ranger. Now he wants a summer job on a national forest. . . . Big change in him.")

Some foresters, and as a breed they have never been backward in castigating themselves or their colleagues for alleged shortcomings, grumble on occasion that today's forester, in the public mind, is not a professional woods manager, which he should be, but more of a combination therapist, fire chief and outdoors missionary.

Be that as it may, we suggest that in the long pull *what* the public thinks of foresters will prove more of importance than what people may think their specific duties are in any given era. A good profession is always slightly in advance of the public but sooner or later the public does catch up. Meanwhile, the forester, in the brief period of 50 years or less, has won something that will prove of priceless worth to him in future years. That is the esteem not to say the affection of the American public.

This makes a pretty strong foundation on which to build for the future. And one need only go into the woods these days to prove to his own satisfaction that both public and private foresters, in ever increasing numbers, are building on that foundation—and along solid and constructive lines. Well regarded by the public, the American forester, as he heads into a period of good economic opportunity, in the next few years will show more intensive forestry than was ever dreamed of before. And the public, which already admires him for a variety of healthy "extracurricular" reasons, will come to accept his primary function—that of a man who manages growing timber and who helps to keep nature in balance.

Just as in the case of other property, the protection, planting and maintenance of shade trees is governed by statutes. This story will test your knowledge of . . .

# Shade Tree Laws

.....

**T**REES are considered part of the land on which they grow. Hence, state laws and municipal ordinances providing for the protection, planting and maintenance of shade trees vary in accordance with their location. Cities and villages, as well as the different states, have adopted laws which are similar in purpose but vary as to the details. In some places, for instance, planting of street trees is done by the city; in some by the adjoining property owner; and in some cases a combination of the two methods. Usually when trees are planted by private owners the city specifies the kind of trees to plant, size of trees, and their location. In any case, however, a private person cannot remove, or even prune such trees without authority from the city or village officials. In some states the town superintendent has full control of all shade trees on the town highways, but not within the limits of an incorporated village or city. On state highways the Superintendent of Public Works, or the State Highway Commission has full charge of the shade trees. Furthermore, most states have a specific law which provides for a definite fine or imprisonment for the removal of

By R. R. FENSKA

trees or shrubs from land without the consent of the owner. In some states no person or firm is permitted to do commercial shade tree work without a certificate from the state tree protection examining board.

The shade tree along the highway benefits not only the adjoining property owner but the entire street, and it is upon this idea that all legislation regarding the maintenance of shade trees is based. A man may plant a tree along the street line, but he does not own it in the sense that he owns the trees within his property line. He cannot destroy the street tree, for the whole street would suffer a loss by such action.

The law regarding the injury to trees on a public highway is well illustrated by the one in Massachusetts which reads as follows:

"Whoever without authority trims, cuts down or removes a tree, shrub or growth, within a state highway or maliciously injures, defaces or destroys any such tree shall be punished by imprisonment for not more than six months, or by a fine of not more than \$500 to the use of the Commonwealth."

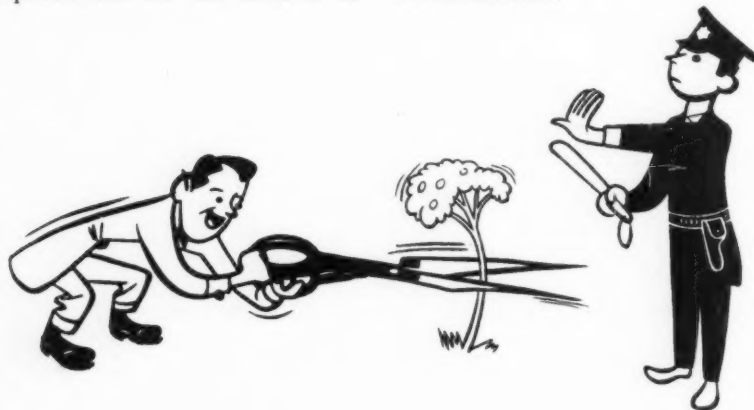
An effective application of this law is the case of a contractor who had occasion to cut a large tree that stood on private land. In falling, it damaged a public shade tree within the highway limits. The tree, a silver maple, about 14 inches in diameter, could not be repaired and had to be removed.

Complaint was made in the police court and the contractor was fined \$25. He appealed the case and it was tried by the Superior Criminal Court with the result that the defendant was fined \$50. The town authorities were not satisfied with the decision and an action was brought for damages under the civil statute. The same judge that tried the case in the criminal court, also tried it under the civil statute. The jury this time brought in a verdict for the town for \$150. This was probably the first time in Massachusetts that anyone was fined under the criminal statute for damaging a shade tree and made to pay damages under the civil law for the same offense. (Mass. Tree Wardens and Forester Assoc. Vol. 3, No. 3, Nov. 1916.)

Injury to trees on private property is adequately covered by state or municipal laws. In Massachusetts the law reads as follows:

"Whoever willfully, maliciously or wantonly cuts, destroys or injures a tree, shrub or growth which is not his own, standing for any useful purpose, shall be punished by imprisonment for not more than six months or by a fine of not more than \$500."

In New York state it is even against the law to pick the "flowers" from a white or pink dogwood not your own. The dogwood is the "official tree" for Westchester County, New York. A special law was passed specifically prohibiting the "cutting down, girdling, or otherwise injur-





ing dogwoods on public property, or the property of another." It does not, however, prohibit a property owner from picking blossoms on his own property.

A similar law in Arizona protects the giant cactus (state tree) and in New Mexico the soaptree Yucca, the flower of which is the state flower. Such laws are necessary wherever trees of beauty or rarity are thoughtlessly injured or destroyed by the uninformed public.

Many people do not realize that in some communities a written permit is required to post notices, adver-

provide for his property. The abutting property owner is, therefore, entitled to recover damages to the extent of the benefits lost by destruction of such trees.

For instance, the driver of a motor coach carrier lost control of his vehicle and crashed into some street trees between the curbing and property line of the abutting owner, causing damage necessitating the removal of the trees. The court held the motor coach company liable for the cost of replacing these trees. (*Murtaugh vs. Chicago Motor Coach Co.* 269 Ill. App. 290, 1933.)

or other material or debris of any kind. (Art. VI, Sec. 71, N.Y.C. Reg.)

The tree on a property boundary line has given rise to more controversy than any other single case. Such a tree, usually referred to as a "line-tree," belongs to the owners of both properties. Neither may mutilate, destroy, or use it in a manner that will infringe upon his neighbor's enjoyment of it. (The removal of marked "line-trees" by any person from original U. S. Government Land Surveys is punishable by a fine or imprisonment for such an act.)

Exception to the above law is in

CHART FOR SHADE TREE APPRAISAL

Diameter of Tree in Inches	Basic Value	Species %	Location %	Physical Condition of Tree	Land per Acre	Residential Value	Correction Factor
6	\$ 56				\$ 1,000	Reduce by	50%
8	100				2,000	Reduce by	25%
10	158				3,000		Even
12	226				4,000	Increase by	25%
14	308				5,000	"	50%
16	402				6,000	"	75%
18	508				7,000	"	100%
20	628				8,000	"	115%
22	758				9,000	"	130%
24	906				10,000	"	140%
26	1,062				11,000	"	150%
28	1,232				12,000	"	160%
30	1,414				13,000	"	170%
32	1,600				14,000	"	180%
34	1,814				15,000	"	190%
36	2,036				16,000	"	200%
38	2,270				17,000	"	210%
40	2,514				18,000	"	220%
44	3,048				19,000	"	230%
48	3,620				20,000	"	240%

Reduce Basic Value by 5% — 100% Depending on These Factors



tisements, etc., on public shade trees. In Massachusetts the general state tree law on this point reads as follows:

"Whoever affixes to a tree in a public way or places a notice, sign, advertisement or other thing, whether in writing or otherwise, or cuts, paints or marks such tree, except for the purpose of protecting it or the public and under a written permit from the officer having the charge of such trees, shall be punished by a fine of not more than \$50. (Mass. G.L.c. 87, Sec. 9.)

In this day of high speed on the highway the automobile is responsible for much damage to our shade trees along the routes of travel. Many of such trees damaged are located between the sidewalk and paved area of the highway. Although the ground on which such trees stand may be owned by the city, the abutting property owner has an easement (special ownership) in these trees to the extent of the benefit which the trees

While the automobile has replaced the horse as a factor regarding injury to street or highway trees there is still on the books a law in many states regarding injury to trees by animals. In Massachusetts, for instance, whoever negligently or willfully suffers an animal belonging to him to injure, deface, or destroy a tree shall forfeit not more than \$500, one half to the use of complainant and one half to the use of the town in which the act was committed and shall in addition thereto be liable to the town or any person having an interest in said tree for all damages caused by such act. (Mass. G.L.c. 87, Sec. 12.)

Furthermore, no guy rope, cable or other contrivance shall be attached to any tree or shrub, nor shall any tree or shrub be used in connection with any banner, transparency, or any business purposes whatever, without a permit; nor shall any person pile or maintain against any tree or shrub any building material

cities where a line-tree obstructs the construction of legitimate enterprise. In such a case the portion blocking the development, or the entire tree if necessary, may be removed by one of the adjoining owners without consent of the other. However, whether such removal is necessary is sometimes a matter for the trial court to decide.

Where a tree is near a boundary line with some of the branches overhanging the adjoining property, the owner of the adjoining property may cut back the branches overhanging on his side of the property line. The branches removed, together with any fruit on them, belong to the owner of the tree. If the adjoining neighbor exercises his prerogative and lops off the branches extending over on his property he must leave them on the property of the owner of the tree. To keep them would be considered an act of converting his neighbor's property into his own. The neighbor on whose property the branches over-

hang need not give the owner of the tree any notice that he is going to remove such overhanging branches. Furthermore, the adjoining property owner may also remove any roots on his side of the property line.

There is the case of an apple tree from which the branches extended about six feet beyond a woven wire fence on the adjoining property line. The branches overhung a driveway and interfered with vehicles as they passed in and out of the neighbor's property. The neighbor cut all branches within four or five inches of the fence and threw the branches and apples over on the lawn of the owner of the tree. If the branches had been cut exactly on the property line (fence) the loss of weight of the apples and ends of the branches would have caused them to rise, or spring back, *beyond* the property line and given grounds for damage to his neighbor's tree.

A few years ago a man in a Missouri city admitted on the eve of Washington's birthday that he tried to chop down his neighbor's cherry tree. He said in Magistrate's Court that the tree's branches hung over his fence and cut holes in his family wash, so he cut off some branches. The court awarded him \$50 for damages to his laundry and threw out the neighbor's suit for \$1200 in damages.

When a tree becomes a "dangerous tree" is sometimes a matter of opinion. However, if the owner has been notified that the tree is dangerous to life or property and it crashes to the ground during a storm, the



owner of the tree is liable for any damages to his neighbor's property or for personal injury. If the tree was sound, however, and no negligence can be proved on the part of the owner, then it is considered an "Act of God" and the owner of the tree cannot be held liable for damages. It has also been established by the courts that a city or village is liable for injuries to a person caused by the fall of a tree or a branch therefrom where the dangerous condition would have been evident on the slightest intelligent inspection.

Public utility companies which injure or destroy trees upon private property are liable for the damages inflicted. By virtue of certain statutory provisions treble damages may be recovered in certain cases. In the same way damages may be collected for trees killed by gas from defective gas mains.

Diseased or insect-infested trees which are a public nuisance may be removed by the proper state or municipal authorities upon due notice to the owner of such trees. The cost of such work can be charged to the owner of the land and will be a lien upon the land and added to and become a part of the taxes levied upon such property.

In certain of our states where orchards and fruit growing are a major economic factor there are laws which require removal of trees that harbor or spread fruit tree disease. For instance, in Oregon it is unlawful to permit juniper trees to grow within a mile of any commercial orchard due to the fact that the juniper tree is the alternate host of the juniper-apple rust, a disease which needs both apple trees and nearby juniper trees to complete its life cycle. For the same reason some of our eastern states have laws for the eradication of currant and gooseberry bushes within the vicinity of white pine trees. To eliminate the currant and gooseberry bushes from the proximity of the white pine controls the

spread of the white pine blister rust to one of our most valuable timber, as well as, ornamental trees.

Street trees with branches too low for sufficient overhead clearance for pedestrians or vehicles constitute a danger to travelers thereon. Persons who are injured by contact with such trees may collect damages.

The law which has made many property owners conscious of the value of their shade trees is the one which permits deduction from their federal income tax the value of trees



damaged or destroyed as the result of a hurricane, sleet storm or other casualty. In this law there is a distinction between the "value" of the tree or shrub as against its "cost." The loss allowed is the difference between the reasonable value of the entire estate immediately before and after the casualty. It is held that trees and shrubbery are an integral part of the entire estate and not a separate entity. Recent interpretations by the U. S. Treasury Department have ruled that the loss of a shade tree due to some insect or disease is not deductible from income tax under the above section of the Internal Revenue Act. It has been held that such losses (due to insects or diseases) are the result of the progressive deterioration of property through steadily operating cause, and do not come within the classification of "other casualty." For federal income tax purposes, the word casualty denotes an accident or some sudden invasion by a hostile agency.





## The California Condor Will Soar Again .....

By HARRY DE LASAUX

**T**HE rather amazing spectacle of a species of bird becoming extinct right before our eyes has aroused the United States Department of the Interior to take action.

The bird is the California condor. Recent surveys, taken under extremely difficult conditions, have revealed the startling fact that there are but 60 of these great high-soaring birds in existence. One authority says that the California condor is the largest flying bird on the North American continent. The California Academy of Sciences, Golden Gate Park, San Francisco, says he is the biggest flying bird in the world. Moreover, he is a useful bird, not a bird of prey. He sustains himself by scavenging the broad fields of the San Joaquin valley, and the rolling hill country and mountains along the California coast ranges between Monterey County and Los Angeles.

His home is in the gaunt rocky cliffs of the coast range. In a bit of cave among giant boulders, with perhaps a dead tree for a nearby perch, he spends his leisure hours. Over the years hunters, disregarding game laws, have sweated and panted upward into the forbidding rocky wastes for a shot at him. Their reward: the hushed admission that they had downed a California condor. Result: the huge, broad-winged soarer over mountain and valley is all but extinct.

But something has at last been done.

The Department of the Interior some time ago set aside 32,000 acres of the Los Padres National Forest for the protection of the great condor. This area includes a refuge established in 1948 for that purpose. It's beyond doubt the world's most exclusive game preserve. But if it takes 32,000 acres of land to protect the breeding habitat of one of the world's greatest birds, it must be worth it to man and earth and created things.

In this vast posted area no one is permitted to go within one mile of a nest known to have been recently occupied. This is important. The condor lays but one egg per hatch.

*(Turn to page 49)*

**This great bird, until recently seriously faced with extinction, at last is being protected. The Department of Interior has set aside 32,000 acres of the Los Padres National Forest as a condor refuge**

North Carolina's new Cape Hatteras National Seashore is a monument to a soil conservationist who confounded the experts by "saving the Banks"

## The Forest That Blew Away

By GEORGE S. WELLS

**W**HEN the National Park Service this spring formally activates the nation's first seashore park, it will also transfer forever into federal custody the only remaining fragment of one of America's most fascinating forests.

The new Cape Hatteras National Seashore encompasses that tenuous thread of sand which arches 30 miles out into the ocean from the coastline of North Carolina and which is tipped with a fearsome shoal of quicksand once known as the "Graveyard of the Atlantic."

This attenuated series of sand islands only a century ago was so thickly forested that a man reputedly could "walk from Avon to Rodanthe—17 miles—without setting foot to the ground." Today, there remains only the paltry stand of loblolly pine known as Buxton Woods, stretching its stunted columns along two ridges of land behind the point of sand called Cape Hatteras.

A fragment it is, because of the ungentle hand of man; but a forest it will become again, also by the hand of man. For the Banks already are changing back from a desert of sand to a green-blanketed land that

has the seeds of a new forest within it.

The process of recovery was begun back in 1936, soon after the Park Service chose Cape Hatteras as the best section of coastline for establishment of a seashore park. Far-seeing men took note of the blowing sands and knew that soon there would be no Outer Banks, unless immediate steps were taken to save them.

Eventually, after numerous false starts, A. C. Stratton, Park Service soil conservationist, was sent down with a crew of men and emergency relief funds to halt the erosion and bring back the forest to a denuded

land. His orders were simple: "Save the Banks."

Experts said it couldn't be done. A thousand bulldozers couldn't throw up sand walls fast enough or high enough to halt the sea. All previous experiments of this nature had been failures or only mediocre in result. Worst of all, the recent geological and botanical history of the area was shrouded in mystery.

Stratton, who is a short, easy-going man with a hint of spring steel about him, started out by asking plenty of questions.

But because the Banks were a remote, seldom visited place until a



The village of Avon, on the shores of Pamlico Sound, is typical of the Banks





A "live" dune advances with the wind as its motor power, killing all the living things in its path

paved road was built to Hatteras last fall, and because the people of the tiny fishing villages kept few records of any kind, the story of the forest is principally a matter of folklore.

The Bankers will tell you how, as late as the middle of the last century, a man could scarcely cut and hew his way across the few hundred yards of land separating Pamlico Sound from the Atlantic. Yet, a scant 50 years later, the sand was blowing free along miles of the Banks, from the edge of the breakers across to the shallows of the Sound, where it slowly but surely began to destroy the "fruit of the sea" itself.

The wood of water oaks and live oaks, the Bankers say, went into sloops and fishing boats and pirate vessels—for the highwaymen of the sea hid often behind the protecting arm of Diamond Shoals. Then, as Pirate crews found their trade less profitable, they settled down and built homes and churches out of the forest. Shipwrecked mariners joined them; others came and stayed when they found the climate mild and the food abundant from the sea. Soon there were widows who owned large sections of the forest and sold wood from it for a livelihood.

In the cutover areas, the Bankers took to grazing sheep and cattle and pigs and horses which came ashore

from wrecked vessels and quickly multiplied. Overgrazing killed the shrubs and shortened the grass. Sand blew in from the beach and covered large areas, killing all that lay beneath.

The blight slowly spread up and down the island chain. Borne up out of the ocean, the sand dried in the warm sun, was picked up in tiny particles by the prevailing winds. It formed into dunes, which traveled inland year by year. First the marsh grasses gave way before them, their roots encrusted with lethal salt spray. Then the shrubbery weakened and died and was engulfed.

Finally, the forest itself was approached, challenged and defeated as the sand swept in among the trees and on toward the lapping waters of Pamlico Sound. The fishing folk became used to watching the sea rise in wrath, sending briny waters across their land, ruining gardens, homes and vessels—often taking lives.

It grew even worse than this. As the denuded land wore away, sea water poured into Currituck Sound to the northward and virtually wrecked the freshwater fishing industry there. Shifting sands partially blocked Oregon and Hatteras inlets, spoiling Pamlico Sound itself for the fishermen.

A poor catch is news to fishermen of Hatteras, but sand erosion once killed the "fruit of the sea"



As the destruction went on unimpeded, even beginning to threaten the mainland itself with similar despoliation, people began to move away from what had been an idyllic way of life. The Bankers were a people fiercely independent, brooking no laws, jails, taxes or government of any kind in their villages. But their anarchic communities, today the envy of much-governed visitors, almost went the way of the forest in those days before the "dis-

covery" of the Banks by the Park Service.

It was at this point that Stratton and his crews moved in. They found little vegetation left, except for the patch at Buxton Woods, and that was in rapid flight before the sand.

More than half of the Banks was overrun at normal high tide. Travel up and down the beaches, difficult at best, had become almost impossible. Little wildlife was left, and the waterfowl hunting which once was a famous pastime here was almost completely ruined. Even Cape Hatteras Lighthouse, that historic structure which had saved countless ships from destruction, had to be abandoned as the ocean overran it.

Stratton's job was to reconstruct 125 miles of coastline (the southern 70 miles of which is now included in the Park). He had been preceded by limited efforts made by the Bodie Island Hunting Club and the Pea Island Gun Club, which tried to pin down the blowing sand and maintain fresh water ponds for waterfowl.

Capt. Nathaniel Etheridge Gould of Chatham, Mass., superintendent of the Bodie Island Club, had hit upon the plan of cutting thousands of young pines and building sand fences out of them, something on the order of snow fences. He planted grasses on the dunes which thus were formed. And on the Sound side of the island, he built dikes and flood gates to control the waters of the Sound. His example was the first assurance the Park Service had that sand erosion could be controlled at all.

However, these efforts were about as effective as trying to drain a pond through a straw, and eventually the hunt clubs had to abandon their



Picturesque Ocracoke Lighthouse still is friendly beacon to ships off Outer Banks

properties before the combined onslaught of wind, sand and sea.

Armed only with a sketchy history and small precedent, Stratton began his work by making a study of the sands. He knew that the sea and the wind were both major adversaries; the former opening and closing the great gaps called inlets, and the latter moving the soil about, a grain at a time, in its war upon the vegetation.

The power of the wind to move sand was variable according to the relative coarseness of the sand, which in turn varied up and down the coastline. A complicated formula

involving the size and shape of particles and the relationship of these factors to the strength of the wind, helped him in planning his strategy.

He studied the shape and size of sand dunes, their degree of movement over periods of months and years and their direction of movement. He learned that the factors involved were force and direction of wind, the amount of sand shower, the lee eddy, gravity force upon sand particles, configuration of the land surface and the amount of moisture present.

Stratton noted that dunes were formed wherever blowing sand ran into an obstruction. From this he concluded that he could build dunes himself by erecting a fence and letting the forces of Nature have sway.

But the first fences were not too successful. A solid fence was objectionable because the wind tended to excavate the sand in front and level off at fence height on the lee side. Single posts would not work, because the wind caused an excavation on either side of any solid object. Picket fence was usable, since the increased velocity of the wind passing between the spokes created a scooping effect.

Finally, he hit upon the plan which eventually was followed along the whole 125 miles of coastline. He made the fences by cutting brush, pinning it between slats and setting it up in the sands, attached to firm set posts.

Brush fences solved the problem. The wind would pass through them, yet there was enough resistance to cause some sand to be deposited. There was not enough resistance to create a scooping action, and the sand built up evenly on both the windward and leeward side of the fence, manufacturing a dune of natural shape which would be subject to least possible future erosion by wind and sea.

Using this brush-fence technique, the Park Service crews proceeded to build a unique, continuous barrier dune along the coast. Experimentation showed the best heights for dunes, so that the sea would spend itself naturally in moving up the slope and would deposit as much sand as it took away.

The patterns of fences varied according to the direction of winds and the shape desired for the dunes. One technique used for building high dunes quickly was the setting of a checkerboard fence, with alter-

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Back of the sands of the Outer Banks, visitors find scenes like this—just an isolated fragment of what once was a lush forest



# Tree Transplanter, KING SIZE

By RICHARD ORR

*"Day by Day on the Farm" editor for the Chicago Tribune*

**Huge machine, with bucket-shaped shovel fitted to the front, moves 60-foot tall, 20-ton trees as if they were mere saplings**

THE most unique tree transplanting project in the history of the Wheaton farm was staged recently. Trees as tall as 60 feet, weighing 15 to 20 tons, with huge balls of soil about their roots, were picked up and moved almost as easily as if they had been saplings.

The job was done with the aid of an ingenious machine that eliminates the need for virtually all the hand labor required by conventional tree moving methods. It also moves and transplants the trees in only a fraction of the time that otherwise would be necessary.

This device is the invention of Edward Kluckhohn, Naperville, Illinois, excavating contractor. It is a large bucket shaped shovel fitted to the front of a giant crawler tractor and operated hydraulically.

In moving a tree, the machine literally scoops it out of the ground with a large ball of soil intact about the roots. The tree, standing upright in the shovel, then is transported to its new location and deposited in a hole previously prepared for it.

Seven Moline elms were moved at the Wheaton farm. They are 40 to 60 feet tall, with trunks a foot or more in diameter. Removed from the arboretum, they were transplanted in new locations a quarter of a mile or more away.

Without the machine it would have been necessary to dig a deep

trench around each tree to form a ball of soil about the roots. Burlap then would have to be wrapped securely around the ball so that when the tree was lifted from the hole the ball would remain intact. The job of digging and wrapping the burlap would require a full day's labor by two men for each tree.

A large movable crane and perhaps several more hours then would be required to lift the tree, move it, and transplant it.

With Kluckhohn's machine four of the elms at the Wheaton farm were transplanted in a single day. Only about five or 10 minutes were required to lift each one. Each was deposited in its new hole in about the same length of time. However, it was necessary to transport them slowly to their new locations to avoid damaging other trees and shrubs along the way.

This was the first phase of the transplanting program scheduled at the farm. Several small ornamental trees and shrubs in the arboretum will be moved to give them more space and sunlight.

For them Kluckhohn will use smaller machines of the same type as the big one used for the elms. After transplanting, each tree will receive a good mulch of straw and manure. When spring comes the gardener will take special care to give them plenty of water.



Start of the operation. Frozen ground offers no difficulty to unique machine



Here's how the tree looked after it had been scooped up by bucket-shaped shovel



Taking tree to new location, a quarter of a mile away, is simple feat for machine

Easing the tree into its new position is the final step in transplanting operation





How the Southern Pulpwood Conservation Association is taking the realistic approach in its campaign for improved woodland management standards was a feature of the organization's 15th annual meeting in Atlanta



## S P C A

Southern Pulpwood Conservation Association encourages use of time-saving tree planters and other mechanized forestry aids







Forester explains to group of landowners what steps were taken in this area for improved forestry, and why

## Goes After the Facts

**H**OW the Southern Pulpwood Conservation Association is endeavoring to obtain the true facts on cutting practices by its members in the South in waging its campaign for improved woodland management standards was a highlight of the organization's 15th Annual Meeting last month in Atlanta, Georgia. Both militant and realistic, the conference served notice that the southern pulp and paper industry, which the association represents, plans to step up its effort to bring aid and assistance to more and more woodland owners. "We cannot relax and we will not," declared W. J. Bailey, vice president of the West Virginia Pulp and Paper Company, in a key address at the meeting.

Lowell Besley, executive director-forester of The American Forestry Association, had this report to make on the meeting upon his return to Washington. "The two things that impressed me most about this constructive conference were: 1) the earnestness and devotion of the conservation foresters to their aim of getting across to the landowners the message of good forestry practice; and 2) the realism with which the whole association views the job ahead. Despite the tremendous and impressive progress which has been made in the past five years, the association is determined to redouble its efforts to reach more owners more effectively and more rapidly than ever before."

The SPCA was organized in 1939. With a membership that represents about 85 percent of present pulpwood consumption in the South, the organization's purpose is to secure widespread acceptance of the fact that trees are a crop and that all forest lands must grow a maximum and continuous supply of wood to be a profitable investment. As reported by President C. H. Niederhoff, the original platform of the association, which hasn't changed over a 15-year period, was "to formulate and promulgate by educational means a practical program of utilization and conservation of the forest resources of the South, in order to assure the prevention of a timber shortage . . ."

As reviewed at Atlanta by General Manager Henry J. Malsberger, SPCA's record has been an admirable one. The number of pulpwood industry foresters now on the job in the South and the service those foresters are providing for woodland owners largely tells the story. A total of 753 graduate foresters were employed by the industry in 1953 in the South as compared to 265 in 1946. A total of 5681 woodland owners with upwards of six million acres of land were reached by those foresters last year as compared to 465 landowners aided in 1948.

Tree planting, both on company and non-company lands, continued its upward spiral last year, Mr. Malsberger reported. A total of 128 million trees went into the ground last

year as a direct result of the industry's program. This is nearly double the previous planting peak established in 1952. Seedlings set out represent approximately 35 percent of the total production of all southern state forest nurseries. Of this total of trees set out in 1953, 101.5 million were planted on company-owned lands. The remaining 26.5 million seedlings were contributed to landowners.

An impressive array of informational projects reaching thousands of people goes hand in hand with SPCA's tree planting and assistance programs. Last year the Association issued a leaflet, "Who Is This Man?" describing the work of the conservation forester; issued 153,552 bumper strips to "Stop Woods Fires" and "Plant More Trees," with South Carolina school buses following the lead of those in Georgia and Ala-

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H. J. Malsberger, left, SPCA general manager, and R. V. Miles, president



This staff report to members previews the scenic wonders and dynamic examples of good forestry that are trademarks of the Pacific Northwest, setting for AFA's 1954 meeting

By JAMES B. CRAIG

The Columbia, one of the world's most magnificent rivers, winding its relentless way to the Pacific



## SIX MONTHS



A TOUR of discovery on The American Forestry Association's last unexplored forestry frontier—the Pacific Northwest—will be sponsored by the Association September 6, 7, 8, and 9 when members travel to Portland, Oregon, for the first Northwest meeting in AFA's 78-year history. With three of the four days devoted to solid field trips, this is a case where the optic nerve will be the convincer in proving conclusively that the ringing slogan of "Trees Forever" is no myth in this region that is nearly half forested and where good forest management and optimum utilization of logs travel hand in hand. Without question, this Northwest meeting in an area of dynamic forestry advance will prove a milestone in the history of AFA. The following report, based on a staff member's visit to Oregon and Washington last month, will attempt to provide some of the reasons why.

Hub of this meeting of friends of forestry will be Portland's Multnomah Hotel, one of the finest on the West Coast. Comfortable, spacious, offering an excellent cuisine and with its bedroom picture win-

Portland, Oregon, the jewel of the Northwest, with majestic Mt. Hood thrusting skyward in the background



# TO PORTLAND

dows providing magnificent views of the necklace of mountains around the "City of Roses," the efficient, restful atmosphere in this friendly hotel will provide an excellent base of operations for carefully planned trips of exploration afield.

Portland, a city that boasts more evergreens per acre than any other American city, is also strategically located for a national forestry conference intent on saluting Northwest progress. Midway between thousands of AFA members in neighboring Washington state, California, and close to Idaho and Montana, the city is also a capital of many and allied forestry interests in the region. Its famous Gallery of Trees—housed in the "largest log cabin in the world"—erected for the Lewis and Clark Exposition—also serves as a symbol of past forestry progress and provides a preview of the future. AFA visitors will not want to miss this inspiring exhibit.

Somewhat farther afield, but all within easy driving distance, are some of the most magnificent examples of forestry progress, multiple use of resources and scenic masterpieces any Easterner ever beheld. The Mt. Hood National Forest and its great recreation mecca at Mt. Hood's Timberline Lodge is only 40 miles away. The Bonneville Dam and its salmon

ladders, Multnomah Falls and the Columbia Gorge are just outside of Portland proper. The world's largest sawmill at Longview, some of the West's finest Tree Farms, and one of the nation's most modern paper mills at Camas are all within easy reach.

In the woods and at these plants, visiting AFA members will see how modern forest management and the newest methods of utilization are "using all of the tree except the breeze" in converting the raw product into hundreds of useful items. They will see highclimbers topping giant spar trees. They will see great tongs mounted on caterpillars and powered by air, handling giant Douglasfir logs with an uncommon deftness. They will see how carloads of Douglas chips from as far away as 150 miles are vacuumed out of freight cars and converted into the wax papers, tissues, kitchen containers and paper bags no modern housewife will do without. Right here, AFA members have an opportunity to see how the products of their forests come out of the woods to them in an efficient operation that stresses a minimum of waste.

Finally, delegates to the Portland meeting will have an opportunity to explore the scenic coastal routes in Oregon and Washington and visit

the string of delightful state and private parks that provide much of the area's charm. They will see the world's largest Douglasfir. At Ecola Park, in Oregon, they will have an opportunity to walk out on a long, narrow point that cuts into the Pacific and which is pounded by the ocean on both sides. Here, the visitor can survey the rugged coastline for miles and miles, both to the north and to the south. Atop the Astor monument at the mouth of the Columbia River, they will scan an almost limitless expanse of forest land including a giant tree farm that encompasses seven different drainage basins.

The grandeur of Oregon's forest wealth—the upward sweep of the forests to countless mountain strongholds—must be seen to be believed. Which is why Easterners visiting this fabulous region for the first time should leave all their preconceived ideas behind. Reality invariably beggars even the most imaginative preconceived notions. The forests cover nearly one half of this entire region. Many of the trees are immense by Eastern standards. This forest land in the Northwest contains 46 percent of the nation's total sawtimber volume plus millions of acres of young, vigorous growing trees that will provide timber for future generations.



Principal types are the Douglasfir, western hemlock, ponderosa pine, Sitka spruce and western red cedar. They should not be confused. Competitive points of view as to the relative importance of these various types differ, one quickly learns, depending on where the visitor happens to be at the time. Without batting an eye, one Douglasfir forester told us the Forest Service was wasting good money building access roads in the spruce country to harvest bug-infested timber. Asked for his version of the story, a spruce forester shook his fist and gave an oration along the general lines of "How do Douglasfir foresters get that way." The truth is, of course, that all of these types are important and contribute mightily to the economy. For example, Oregon alone has 322 billion board feet of Douglasfir and

important in the Northwest's general scheme of things. Both in the coastal region and the rich Inland Empire, the Columbia's drainage area provides rich soil for farms and orchards that raise 17 percent of the nation's wheat, 30 percent of its apples, 20 percent of its sugar beets and 40 percent of its pears. But as everywhere in the Northwest the presence of thick, growing forests loudly proclaims that timber is king in this territory of trees.

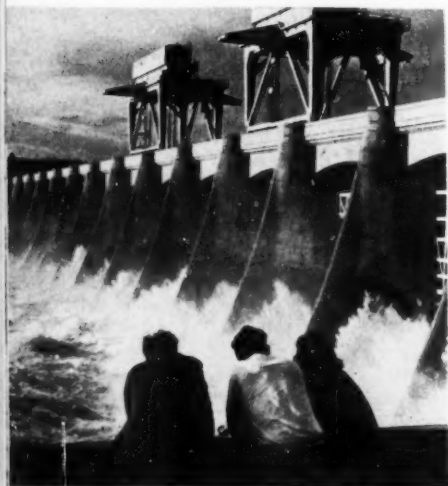
Of the forest land in the Northwest, 63 percent is in public ownership, mostly national forests, but the most accessible and potentially productive land is in private ownership. Less than half of the private forest land is owned by the wood industries and other owners with over 5000 acres. One need only talk to representative citizens in this two-state region to learn that the Forest Service has done a magnificent job in selling the multiple use concept to the people in this part of the country. The big recreation areas such as Mt. Hood, visited by over 3000 people on a recent sunny Sunday, the importance of watershed management and other wildlife and recreation values all loom important in the minds of Northwestern people.

Oddly enough, however, a public that is obviously well informed on the importance of forest fire prevention often shows scant interest in the practice of good forestry itself. One Seattle businessman who conceded that the national forests should start taking the maximum allowable cut

from their lands as soon as possible, added, "But you people with your noses in forestry must remember that those forests are worth their cost 20 times over if they never harvest a sick of timber. Those forests are watersheds. They represent the Northwest's 'anchor to the windward' and I never fail to see them buttressed up there against the skyline without considerable inner satisfaction."

Nevertheless, it would seem that the Forest Service, in facing up to its future task of obtaining the maximum allowable cut and protecting its lands from the ravages of tree-killing pests, has a wonderful opportunity, using its multiple use accomplishments as teaching aids, to sell the public on the importance of good silvicultural practices. More people should know about good forestry which, in its own way, is fully as fascinating a subject as are the other facets of wise use. And the stage now seems set for great advances by forestry, as a profession.

AFA members from the East who have been hearing about West Coast Tree Farms in recent years have a treat in store this September when they tour one or more of the big industry operations in the Northwest. The Tree Farm program which has now become a national one originated in the Northwest. Originally little islands of good management as practiced by the big wood-using industries, these islands "have now become continents," to quote Col. William B. Greeley, with the larger operators encouraging more and more

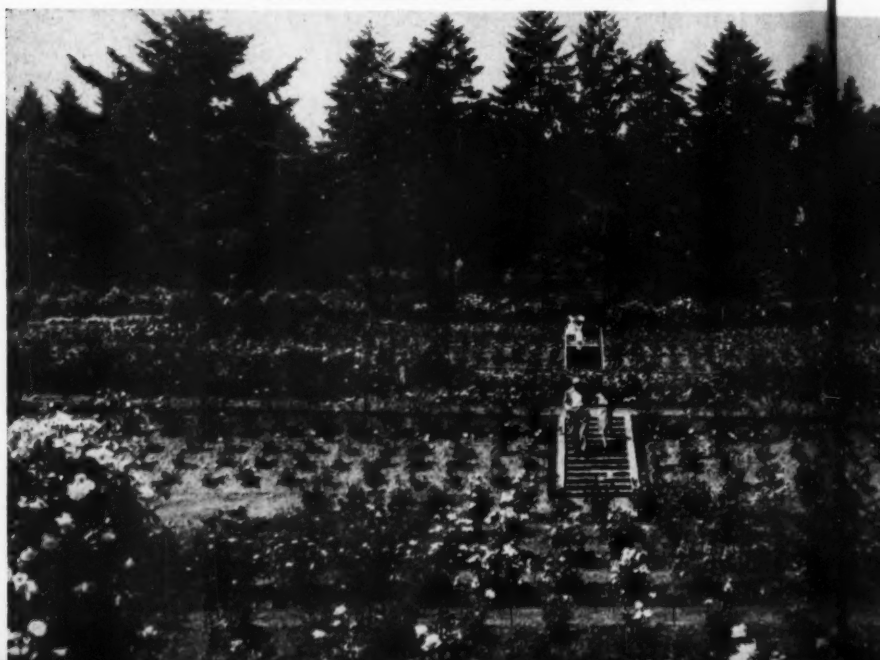


The spillway dam at Bonneville Dam, located 37 miles east of Portland

ponderosa pine—or enough to build 35 million homes of average size.

Next to the immensity of the forests the visitor is most impressed by the apparent abundance of water that is sparkling clear and which seems to rush pell mell off every slope whether in rivulets or wide streams. The principal river, the Columbia, is 8200 miles long. Fed by the Snake, Spokane, Cowlitz, Yakima and countless other tributaries, it drains an area 259,000 miles square. Discharging an average annual aggregate of 253 million acre feet into the Pacific, its flow in the United States is exceeded only by the lower Mississippi and Ohio Rivers. Carrying off 65 percent of the runoff for this whole region, this river looms

These international rose test gardens in Portland's Washington Park are one reason Portland is known as "the city of roses"





small owners to climb aboard the forestry bandwagon. How they have started up and mushroomed all over the country is one of the most fascinating conservation stories of our century. It is this type of good forestry practice that is now encouraging mortgage loan firms, banks, and fire insurance people to become more active in what was previously a neglected field. This activity is based solely on worthy performance and Tree Farmers have now convincingly proven that trees, a renewable natural resource, can be a profitable cash crop and grown in perpetuity.

To single out any one tree farm for special attention would be unfair to hundreds of others equally fine in a story of this type. In general, and as practiced by the larger firms, tree farms are miniature national forests in which the maximum protection and forestry management programs are worked out first but in which the various multiple use factors including hunting and fishing, watershed protection, and in some cases private and roadside parks are inevitably following along. A visitor to the Northwest can't help but conclude that full multiple use programs on these larger private tracts is just as inevitable as on the national forests. They include the watersheds and water supply for numerous towns and cities. With selective cutting being practiced, the areas abound in game. Eight Roosevelt elk, two deer and several grouse were flushed in an eight-hour period on a recent visit to one tree farm. Also interesting to note is the fact that



**Multnomah Falls, an awe-inspiring cascade beside the Columbia Highway**

several of the larger companies now have their own wildlife experts. The industrial forester—like his colleague in the Forest Service—also appears to be a fountainhead of knowledge on such subjects as wildlife propagation and municipal water supply.

The first great menace to Tree Farms in the Northwest was fire. How it has been stopped is shown on any Tree Farm operations map—just like the ones at the division headquarters of an infantry division. These maps show an elaborate network of main line roads, lateral roads and logging spurs. Both in studying these maps and in travelling over the tracts, one notes that these great forests are laced with highways, water-

points and in some cases water mains to locations where water is not readily available. Over these roads travel an astonishing array of fast, mobile fire-fighting equipment. Aided by lookout towers and in some cases spotter planes, this mobile equipment—all drawn from company-maintained reservoirs—can reach any point on the operations map in a matter of minutes. Equipped with telephones, two-way radios, fog machines, portable pumps and other useful apparatus, it becomes readily apparent how these people reach fires quickly and snuff them out fast.

The effectiveness of the tree farm is due in large measure to the good working relationship between the logging engineer or supervisor and the chief forester. As practiced in the Northwest, this relationship augurs well for the future of Northwest forestry. Trees are cut selectively by what is known as the block cut method. If you will think of a patchwork quilt with several of the patches removed you get the idea of what a block cut looks like. The block that is cut is completely surrounded by growing trees that serve as seed trees for the cutover area. When natural seeding does not prove 100 percent effective, the foresters lend a hand.

Back East people sometimes ask why coastal foresters don't practice individual tree selection. As Leo Isaac and others have shown, the principal reason is that the Douglasfir is an intolerant tree and will not reproduce in its own shade. Foresters also point to uprooted trees with very shallow root systems and say "too much heavy wind." Nor are Douglasfir foresters convinced that block cutting necessarily represents the best that they will be able to do on this score. They point to some blowdown timber around the periphery of many of the blocks that have been cut. Professor J. Kenneth Pearce, of the University of Washington's forestry school, had some comments to add to the subject of future cutting practices in the Northwest. Taking his visitor home for a five o'clock snack, and using a sketch pad for diagramming, he traced the whole evolution of cutting practices in the Northwest and then concluded that strip cutting may be the final answer.

To a layman, strip cutting, as described by Prof. Pearce, conjures up the idea of "cutting on the contour," not unlike the principles taught to the farmer by Dr. Bennett in soil conservation work. A strip cut is a long, narrow cut that follows the con-

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There are forest regions in central Africa's Belgian Congo that put even Hollywood to shame. Vegetation in this area seems to date back to the last ice age

## FAMOUS FORESTS

# Mountains 0

In the fantastic land of the Congo heather becomes a tree with a thick wooden trunk, and tree ferns grow to a height of 15 feet



# s of the moon

**H**OLLYWOOD is forever inventing remote and mysterious regions where dinosaurs and other prehistoric monsters that actually died millions of years ago, have somehow survived. Animated models, trick photography and actors in horrendous costumes produce quite an effect.

But on the Mountains of the Moon in central Africa's Belgian Congo are forest regions in which the vegetation really does appear to date back to the last ice age, many thousands of year ago. Toward the tops of these mountains in sodden, freezing valleys and on cloud-filled plateaus, are monstrous plant forms not found in the valleys below and which, it is thought, somehow got stranded up at these levels when an ancient ice sheet melted away. In this weird, grotesque world, where it rains or snows almost continuously, heather becomes a tree with a thick wooden trunk, and tree ferns grow to a height of 15 feet. Even parsley grows to a monstrous nine feet. Fog, snow, hail, rain, lightning and thunder are "all extremely common," one explorer reported. Referring to the best time of year for a trip another wrote that "there is no best season."

The Ruwenzori (or "rain mountains"), as the Mountains of the Moon appear on modern maps, are located almost precisely on the Equator, and while their bases are planted in steaming jungles with a humidity of nearly 100 percent, their peaks, many of which are almost 17,000 feet high, are covered with snow and glaciers all year round. It is believed that the high amount of ultraviolet light, the high humidity, and the near-freezing temperatures on the upper reaches of this mountain range are responsible for these strange plant forms. Some plants actually grow much better in a cold climate.

The term "Mountains of the Moon" was invented by the Egyptian geographer Claudius Ptolemy in the second century. He wrote that the Nile found its source in certain lakes fed by the snows "from the Mountains of the Moon." There is no evidence that Ptolemy ever saw the Ruwenzori, or traced the Nile to its source, but it was a romantic explanation for a problem which intrigued many of the ancients. The old maps are very vague, but it turned out that Ptolemy was approximately correct, so the term has stuck. The Ruwenzori range, 50 miles long, is west of Lake Victoria and north of Lake Tanganyika.

The first European to report in detail on the Ruwenzori was Henry Stanley, the British explorer, who saw the peaks in 1888 and made a partial ascent. Because the mountains

are almost always hidden by clouds, many earlier explorers passed close by them without knowing they existed. The natives, who lived all their lives down in the tropical jungle, told Stanley that the white stuff on the peaks was salt. They had never seen snow close up, and are crazy about salt, which they eat as we do candy. With no warm clothing, and food plentiful, these tribes appear always to have stayed down at levels where they were comfortable. Besides, they told Stanley and later explorers, the mountains were inhabited by evil spirits.

Explorers who have climbed all over these peaks in recent years and have hired native porters to carry baggage and scientific equipment have found it extremely difficult to enlist men who would go into the

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The monstrous plant life on the Mountains of the Moon looks, indeed, as if it should belong to a bygone age, or even to some other world





Mechanized carriers can operate in snow, provided it's not too deep

# Meet the Mechanical Mule

By A. E. ALLEN



Hunting party is surprised to meet the mechanized trail crew. A few Montana hunters already have built themselves duffel carriers, or "mechanical mules"



Lawrence Alkire believes in eventual success of "mechanical mule"



Veteran trail crewman Ed Johnson casts vote for four-legged mules

THE U. S. Forest Service maintains an astonishing mileage of trails; 30,000 miles in Region One (Montana, north Idaho, and eastern Washington) alone. Most of the trails are passable only for men, horses, and mules. The Forest Service uses plenty of mules.

Last fall I was in on an experiment to find cheaper ways to maintain trails. One of the things we tried was a machine to replace pack mules.

Replacing mules is a large order.

The Forest Service has tried miniature bulldozers and graders for maintaining trails, and tractor-powered "mules" for hauling supplies — without conspicuous success. The machines all worked—but they needed wide trails, and it was cheaper to keep on using flesh-and-blood mules on narrow trails.

Last fall we began a new approach. Instead of building wider trails we would build narrower machines. Through September and October we put two two-man crews out on the rough spine of the Montana-Idaho border to test our "duffel carrier," a sort of motorized wheelbarrow.

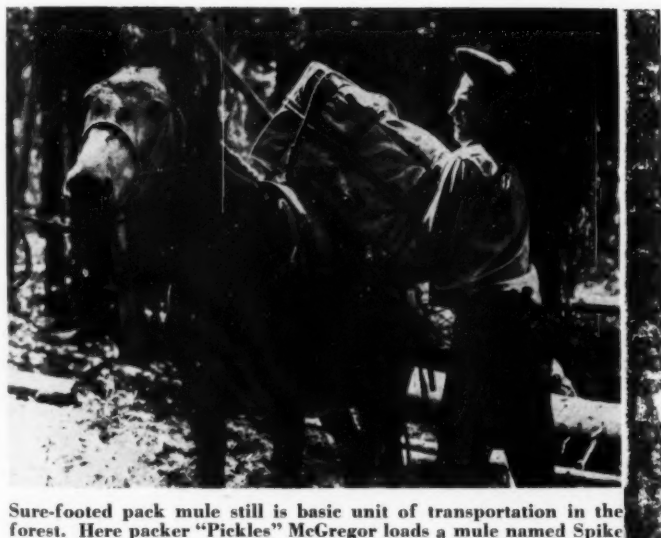
The crews learned a lot about the weaknesses of man-built gadgets in a rough, mule-packing country. One crew loaded an elk onto its duffel carrier and stripped the carrier's gears. The other crew had worse luck; its machine got away from it on a narrow trail, rolled over one of the men, nearly knocking him out,

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Up the trail. Man in front is bearing down on the handlebars to get better traction on steep grade



Sure-footed pack mule still is basic unit of transportation in the forest. Here packer "Pickles" McGregor loads a mule named Spike



Big rocks like this one being rolled out the trail are obstacle to wheeled vehicles



Lawrence Alkire, foreman of experimental crew, loads "mechanical mule"



GREAT deal has been written about that sturdy monarch of the southern swamps and producer of one of America's most valuable timber crops, the bald cypress.

But almost nothing is known about a peculiar appendage of the cypress, commonly called a "cypress knee."

What little the standard references have to say about it is conflicting, and some of it downright inaccurate. The cypress knee, it would seem, has been treated somewhat as a stepchild by foresters, biologists and lexicographers alike.

At any rate, when dictionaries and encyclopedias mention it at all, the cypress knee usually is dismissed as a curiosity, an anachronism whose true function, like that of the human tonsil, has been lost in the mists of time. Some authorities conjecture vaguely about it being a breathing device; others feel that it might be a brace, to help the mother tree resist the onslaughts of the hurricane.

## The Man With the

By E. JOHN LONG

One man was not satisfied with all this, so to speak, beating about the bush. So he decided, nearly a quarter of a century ago, to look into the matter for himself. As a result he not only knows more about this mysterious growth than anyone else, but he has also succeeded in developing a modestly profitable industry by fashioning cypress knees into products both useful and decorative. Especially fine specimens he markets as *objets d'art* to a growing list of collectors. Others he sets aside for a museum he has built to house his own very fine collection.

The man is Thomas Gaskins, and his workshop and museum stand at the edge of a beautifully forbidding bit of wilderness known as Fisheating Creek swamp, near Palmdale, Florida, just north of the vast, sprawling Everglades. From the



Author's wife, left, and Mrs. Thomas Gaskins look at cypress knees growing out of water near Gaskins' museum



Bare wood of a cypress knee has pale, satiny appearance and the shapes taken by the knees often are suggestive of modern sculpture. Photo on left might be statue of mother and child, one in center a hand, and one on right a polar bear on ledge

## Well-Turned Knees

nearby swampland, with the aid of swamp-buggy, dugout canoe and ax, he can get all the raw material he needs—the queer conical tumor or excrescence that rises from the roots of the bald or swamp cypress (*Taxodium distichum*).

These he brings back to his *al fresco* factory, which is nothing more than a collection of small, open-sided huts that shelter electric-driven woodworking tools (many of them of his own design) and the other equipment he needs to transform the ugly ducklings of the marshes into things of beauty and usefulness.

How did Mr. Gaskins get into this unusual business? Let him tell it:

"During the early 1930's I was searching for a way to create something I could trade to people for a million dollars. In 1934, shortly after I was married, my mother-in-law, Mrs. H. L. Bible, of Arcadia, Fla., said to me: 'Next time you are down in the swamp, Tom, I wish you would get me a cypress knee. I want to use it as a flower vase.' (She, like many people, thought they all were hollow.)

"People have been around cypress knees since America was discovered. I had stumbled over them for years while hunting. Cypress knees meant nothing to me as a method of making money. But if I had not had the desire to make a million dollars, if I had not been a salesman, if I had not been a wood carver, if I had not hunted and fished and been acquainted with the swampland, there would probably not have been a cypress knee industry today."

So much for the genesis of Mr. Gaskins' efforts, launched at Arcadia, southwest Florida, in June 1934. Soon other relatives and friends wanted copies of Mrs. Bible's flower vase, and other gadgets made from cypress knees. At first Gaskins made wall vases, flower holders and birdhouses, all with the outer bark on. A rustic finish was necessary because

no one had yet thought of peeling off the outer bark, a thin tough layer that clung to the wood like the tights on an acrobat.

"One day in the spring, while I was cutting a knee for a birdhouse," Mr. Gaskins recalls, "the knee fell before I had a chance to sever the bark all the way around. In the spring, because the sap is up, the bark slips easier, and when the knee fell over the bark attached to the base held fast and peeled from the part I was cutting. I felt badly, having ruined the knee for making a birdhouse, or so I thought at the time.

"However, I picked the knee up and out of pure curiosity, I suppose, examined the bare wood, which had a beautiful pale, satiny appearance. I thought to myself, now that's pretty. If I could figure out a way to get

**An enterprising Floridian has made a going concern out of fashioning cypress knees, those ugly ducklings of the swamp, into a variety of beautiful and useful marketable objects**

all of the bark off easily, I would have two things to sell."

How does one de-bark a cypress knee? Some of them are quite gnarled and misshapen, with many deep crevices, knobs and whorls. It didn't seem like too much of a problem at the time, but Gaskins found nothing helpful in the standard forestry reference books.

The trick was to remove the bark from all the nooks and crannies without ruining the texture and delicate finish of the inner wood. About six months of trial and error and much hard work ensued. Gaskins tried acid, lye, oils, boiling and plain old "elbow grease." Result: kindling wood! Very frustrating.

Finally he took his problem to the government. The Bureau of Standards referred him to the Forest Products Laboratory of the Forest Service, U. S. Department of Agriculture, Madison, Wisconsin. The specialist there wasn't sure, but he thought the

bark should come off if Mr. Gaskins would cook the knees from one to two hours in water heated to near the boiling point. Gaskins had already tried boiling, but not for that long.

Success! The formula worked, and the second and most important phase of Mr. Gaskins' operations began. Boiling really loosened the bark, but there was still the matter of getting into those troublesome crannies to pull out the loose debris. An old set of dental tools solved that. There were other problems and much to be learned. The inner wood of a newly-peeled cypress knee is light in color. Left in the sun it will tan, much as will a human knee, to an amber or rich golden brown. In this drying process, he found, the outer skin often cracked. This was prevented by hollowing out the center.

To get a suitable degree of drying and an agreeable shade of tan,

Gaskins had to devise special drying racks. Knees which had been hollowed by electric drills were placed on upright wires, mounted on four-wheeled carts, and left in the sun. The carts, on wooden rails, could be run into a storage shed to protect the knees from rain and heavy night dews during the three weeks to six months period they were being cured.

After the knees were thoroughly dry and tanned, a paste wax was applied, or they were dipped in a very thin solution of wood sealer. The chief reason for any finish is to close the pores of the wood, so that the knee will not soil easily with handling.

Gaskins is opposed to varnish, shellac and lacquer. They make the knees shine too much. However, he is experimenting with some commercial preservatives. Knees have insect enemies, although not to any serious extent. Roaches have eaten the wood as they might books and papers. A knee lying on the ground in the weather would, of course, be subject to termites and wood borers because knees are composed mostly of sapwood, having very little of the preservative oil which protects the heartwood of the cypress tree itself.

Why are some cypress knees so tall and straight, and some so gnarled and crooked? The answer is simple: something has interfered with normal growth. Fire, floods, falling limbs, animals and man all are hazards to a natural existence. To prove this, Gaskins tried some experiments in the swamp. He succeeded in making a live knee grow around a bottle (without breaking it), also repair damage done by breaking, splitting or chopping the top of a knee. The unusual bumps, curves and whorls are caused by the knee healing over old bruises or cuts.

Which brings us around to the big question, just exactly *what* is a cypress knee, and why is it such a biological mystery? Let's examine some of the things that are known about it:

- 1) It is attached to the root system of a cypress tree, yet it is not a miniature tree itself, bearing neither leaves nor branches. Yet the knee also puts out roots.

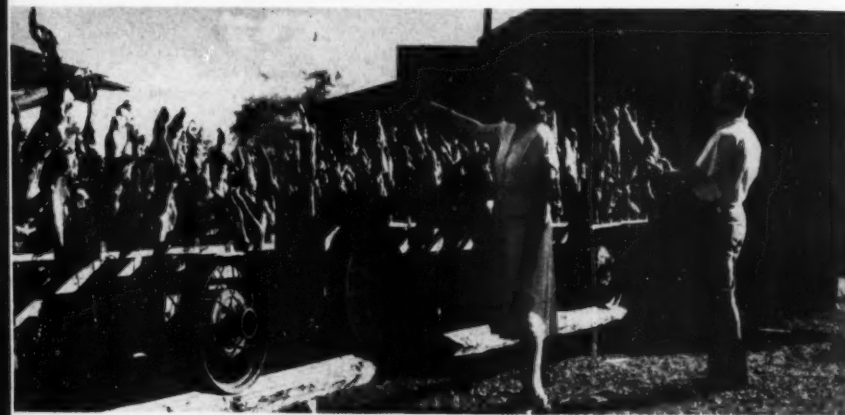
- 2) It is not a means of reproduction, such as the shoots on bamboo, yet it grows on a reduced scale with the tree.

- 3) Unlike a tree, which puts on rings of growth each year, the knee puts a cap across the top and down

(Turn to page 44)

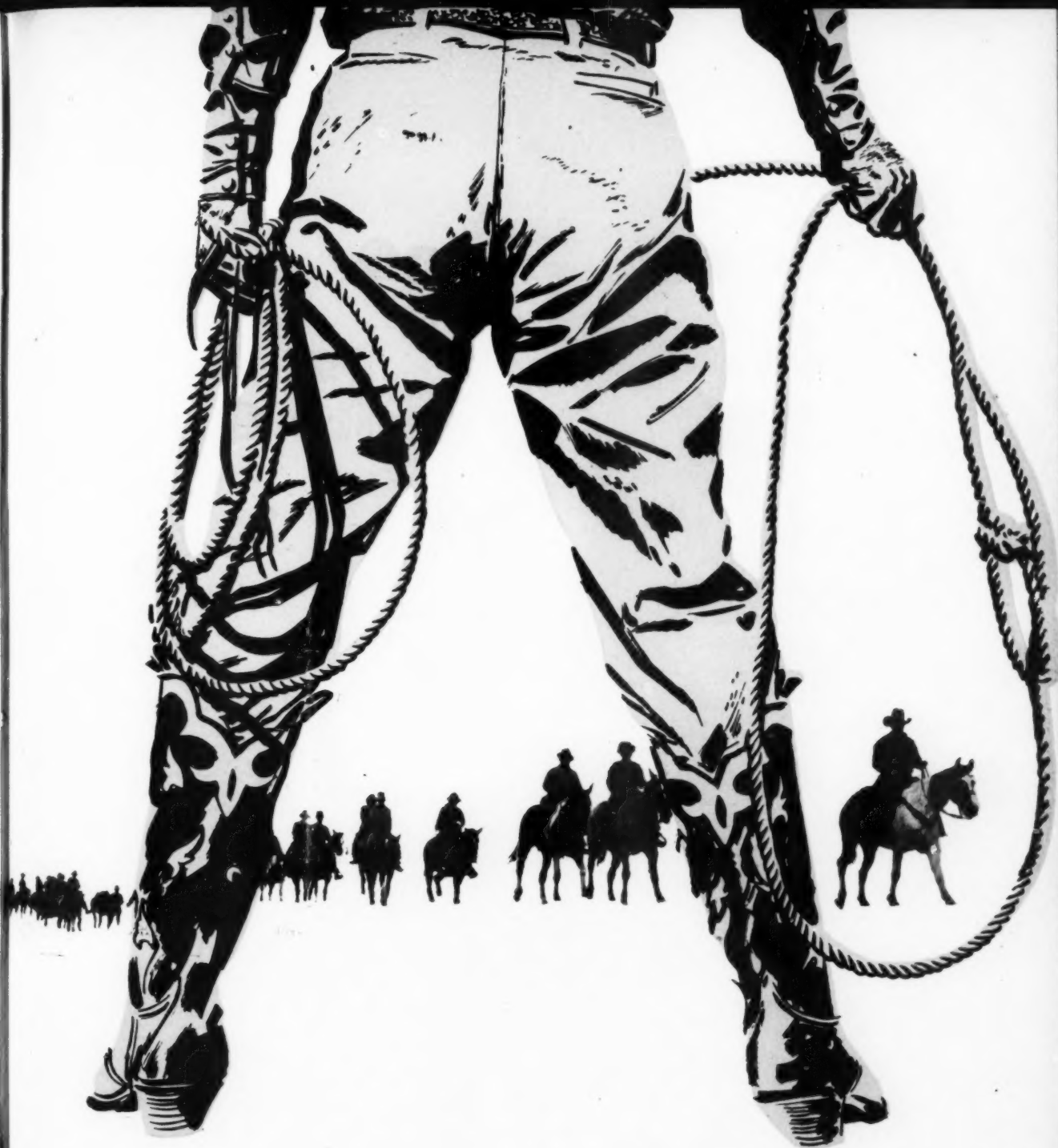


Drilling holes in the base of a cypress knee. Most cypress knees are solid, the holes being drilled to facilitate drying and to prevent surface cracking



Curing racks and shelter shed. After cypress knees have been stripped of their bark and drilled, they are placed in the sun for six weeks to "tan"





# TRAIL RIDERS OF THE WILDERNESS



# Be Nature's Guest

## SHARE HER WONDERS AS A TRAIL RIDER OF THE WILDERNESS

Now in their third decade, Trail Rides are the original organized expeditions into the last remaining primitive areas of the continental United States. Closely supervised by The American Forestry Association, they are safe, educational and spiritually and physically healthful as only the outdoors can be. They're economical, too, since each expedition is conducted on a non-profit basis with each rider sharing the cost.



# VACATIONLAND



## TRAIL RIDERS OF THE WILDERNESS 1954 EXPEDITION SCHEDULE

### 1 FLATHEAD-SUN RIVER WILDERNESS, MONTANA

Dates: July 5 to July 16; July 16 to July 27  
Cost: \$215 from Missoula, Montana.

### 2 QUETICO-SUPERIOR WILDERNESS, MINNESOTA Canoe Trip

Dates: July 10 to July 19  
Cost: \$195 from Ely, Minnesota.

### 3 SHOSHONE-YELLOWSTONE TRAIL, WYOMING

Dates: July 20 to July 30  
Cost: \$215 from Cody, Wyoming.

### 4 MAROON BELLS-SNOWMASS WILDERNESS, COLORADO

Dates: July 21 to July 31; August 3 to August 13  
Cost: \$215 from Glenwood Springs, Colorado

### 5 HIGH UINTAS WILDERNESS, UTAH

Dates: July 26 to August 5  
Cost: \$215 from Vernal, Utah.

### 6 SAWTOOTH WILDERNESS, IDAHO

Dates: July 27 to August 6; August 10 to August 20  
Cost: \$205 from Sun Valley, Idaho.

### 7 SAN JUAN WILDERNESS, COLORADO

Dates: August 13 to August 23; August 28 to  
September 7  
Cost: \$215 from Durango, Colorado.

### 8 WONDERLAND TRAIL, MT. RAINIER NA- TIONAL PARK, WASHINGTON

Dates: August 15 to August 25  
Cost: \$210 from Paradise Inn, Mt. Rainier Na-  
tional Park.

### 9 SEQUOIA-MT. WHITNEY WILDERNESS, CALI- FORNIA

Dates: August 25 to September 3  
Cost: \$210 from Lone Pine, California.

### 10 GLACIER PEAK-LAKE CHELAN, WASHINGTON

Dates: August 26 to September 6  
Cost: \$215 from Wenatchee, Washington.

### 11 PECOS WILDERNESS, NEW MEXICO

Dates: September 8 to September 19  
Cost: \$215 from Santa Fe, New Mexico.

# LURE



## FLATHEAD-SUN RIVER Montana

A million acres of bold mountain beauty, with sparkling lakes, dark canyons, flowered valleys and rugged peaks — this is the great wilderness of the Flathead and Sun rivers in the back country of the Flathead, Lolo and Lewis and Clark national forests. This vast roadless kingdom straddles the Northern Rockies for more than a hundred miles south of Glacier National Park. A domain of lofty mountains, with peaks and ridges of the Continental Divide rising in huge escarpments, this primitive land is Nature at her best. Weather conditions normally are perfect for both these expeditions.

## EXPERT PACKERS—GOOD FOOD SU

## MAROON BELLS-SNOWMASS Colorado

The rugged grandeur of Colorado reaches dramatic heights in the Maroon Bells-Snowmass Wilderness — a land of towering peaks, alpine lakes and rushing streams. Snowmass Lake is one of the beauty spots of America. When the Ute Indians used the territory as hunting and fishing grounds, Chief Ouray made annual trips near Pearl Pass where he communed with the Great Spirit. Trail Riders find this high country, in the White River and Gunnison national forests, as primitive and as inspirational as did Ouray. Occasional storms, 35-65 degree temperatures are normal for this mountainous area.





# THE TRAIL

## 2 QUETICO-SUPERIOR Minnesota

Along the United States-Canadian border in Minnesota and Ontario lies one of the continent's greatest water wildernesses. Tree-studded islands, broad connecting lakes, rushing white water and excellent fishing make this area a paradise for lovers of the outdoors. This canoe trip penetrates country that may someday be dedicated as the Quetico-Superior International Memorial Forest. Several short portages on the trip afford an opportunity to explore parts of the Superior National Forest. Clear weather, with possible brief showers, and warm days and cool nights can be expected.

## 3 SHOSHONE-YELLOWSTONE Wyoming

Almost any scene in this wild hinterland of the Shoshone National Forest and remote sections of Yellowstone National Park possesses all the charm that dramatic outline, distance and color can bestow on any landscape. Famed "Buffalo Bill" Cody and great Indian tribes once hunted big game in this country. The hunting still goes on, only now it's done by Trail Riders with cameras and the bear, bison, elk and moose are exciting "targets." Fishing, too, is excellent on this expedition, as are the views from the Old Yellowstone Trail. Daytime temperatures average 65 degrees, 40 at night.

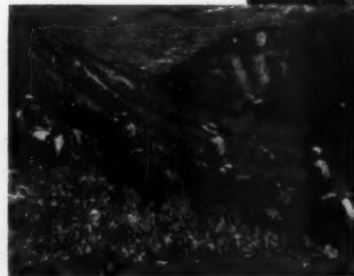
FOOD SUPERB SCENERY—REAL FELLOWSHIP—EVERY TRIP UNIQUE

## 5 HIGH UINTAS Utah

In the High Uintas Wilderness, of the Ashley National Forest, are tremendous forest, stream and lake-strewn valleys, brimful of silence. Here is space—vast enough to awe—open enough to show other scenes which must await another trip—varied enough never to prove monotonous. Rugged red peaks and glacial cirques mirrored in numerous lakes, forests of lodgepole pine and Engelmann spruce, vast grassy basins bright with flowers, swift clear streams and colorful canyons make its trails memorable. Trout fishing is of a quality rarely surpassed. Weather outlook: warm days and cool nights.

## 6 SAWTOOTH WILDERNESS Idaho

An unsullied kingdom of serrated mountains, high lakes and majestic pines is the formidable Sawtooth Wilderness in the Sawtooth and Boise national forests. Its rugged peaks and crags, towering above lush forests, blend with sparkling lakes to enthrall and inspire the Trail Rider. Jake's Gulch, Blizzard Mountain, Mattingly Peak, Spangle Lakes—these are a few of the fabulous stops on the expeditions through this great wilderness. This is big game country, too—elk, deer and goats—and the fishing is excellent. The weatherman promises sparkling sunshine, occasional showers.



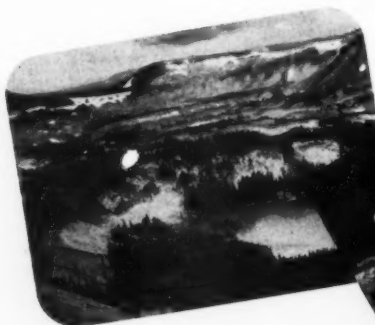


## 7 SAN JUAN WILDERNESS Colorado

Northeast of Mesa Verde National Park, and under the very rim of the Continental Divide, the Needle Mountains fling up their rugged crests to form one of the most dramatic and colorful wilderness areas remaining in the continental United States. Bold Windom Mountain, 14,084 elevation, and Sunlight Peak, 14,063 feet, dominate this wild and rugged land. This little-known country, this remote wilderness in the heart of the mountainous San Juan National Forest excels in scenic beauty, fishing and the things Trail Riders want. Mostly clear skies, warm days, cool nights can be expected.

## 8 WONDERLAND TRAIL Washington

The distinctive feature of the Mount Rainier National Park is the great ice-clad volcano that stands in its center and occupies one-fourth of its area. That would be Mount Rainier itself, also known by its Indian name of Tacoma or Tahoma. Situated on the western edge of the Cascade Range, this huge white peak has become known the world over as the most superb landmark in the Pacific Northwest. Around the base of the mountain, and other volcanoes, lie natural meadows of exquisite charm, more thickly studded with flowers than the vaunted Swiss meadows. The weather: pleasant.



## SEQUOIA-MT. WHITNEY California

The High Sierra of California offers America's greatest spectacle in varied and unique mountain scenery. Dominated by Mt. Whitney, 14,496 feet above the sea, the highest peak in the continental United States, it is a wilderness of the sky. But this glory is shared by the indescribable blue lakes, and meadows that fairly dazzle one with flowers. Brilliant skies prevail.

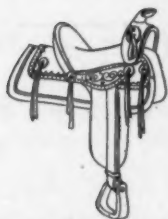
## GLACIER PEAK-LAKE CHELAN—Washington

The high, rugged Glacier Peak-Lake Chelan country of the Chelan, Mt. Baker and Wenatchee national forests is a mighty piece of wilderness. Here, deep in the Cascade Range, is one of the scenic gems of the nation—the 55-mile ribbon of blue that is Lake Chelan. The surrounding country is characterized by lofty peaks, living glaciers and grassy basins. The weather is invigorating: cool nights, warm days.

## PECOS WILDERNESS New Mexico

Dominated by Truchas Peak, one of the most colorful mountains in the Southwest, the Wilderness of the Pecos lies just north of historic Santa Fe, in the Santa Fe National Forest. A land where Spanish influence is still strong, its rugged hinterlands, forested ridges and park-like mesas combine to give it a distinctive charm. The climate is ideal in September.

# Tips on Your Trip

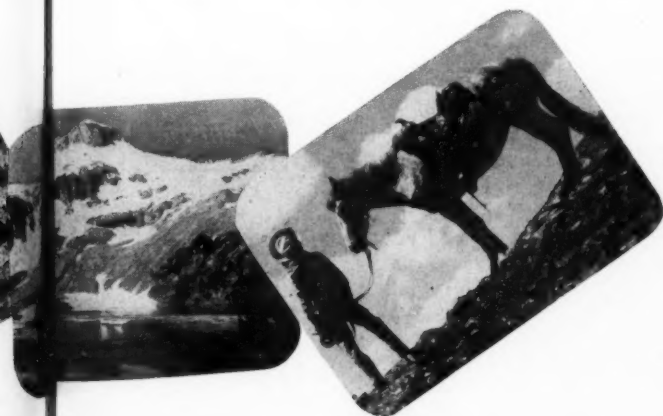


A Trail Rider's best friend is his horse, so be sure your equipment is adaptable for horse packing. A pack should be compact and must not exceed 50 pounds in weight. All riders must provide their own sleeping bags, air mattresses, clothing and personal equipment. A woolen blanket is a good idea for the chilly nights at high altitudes.

A flannel sheet and small pillow will insure added comfort. A pommel slicker or raincoat is another "must." The garment should be heavy enough to keep the entire body warm while mounted. A duffel bag—zipper type recommended—should be provided by riders for packing personal equipment. If riding boots are used, also take along a pair of comfortable walking shoes, as well as slippers or moccasins and a pair of rubbers or lightweight overshoes. If you prefer



riding breeches to the traditional blue denim trousers, make sure they are loose at the knees. "Long-handled" underwear is recommended with blue jeans and a heavy sweater or jacket always proves useful. Experienced riders say the best hat is of the broad-brimmed felt variety. The sun's rays burn quicker—and deeper—at high altitudes. Of the several shirts you pack, one at least should be woolen. Woolen, as well as cotton, socks also are recommended and a pair of tough gloves should not be overlooked. Toilet articles should be kept compact. Every rider is encouraged to bring a camera. A water-proof container is best for film. Consult your camera shop for recommendations on high altitude filters. Binoculars are always handy as are a jack knife and flashlight. For the canoe trip, the outfitters provide pack sacks, blankets and air mattresses, but not sleeping bags. Vest-type life preservers are recommended for this trip.



Further information on Trail Rides, including names of packers and itineraries of trips, can be obtained by writing to Dorothy Dixon, The American Forestry Association, 919 17th St., N.W., Washington 6, D. C.

## AT TRAIL'S END ...

"...The trip (Flathead-Sun River, Montana) was marvelous. We had a terrific time. The terrain is magnificent, fishing excellent, and wildlife is everywhere."

*Dr. Frank Rigos, Tacoma, Washington*

"... All who shared the trip through the Sawtooth Wilderness (Idaho) feel a very real debt of gratitude to The American Forestry Association and its Trail Riders."

*Bernice Goetz, Cleveland, Ohio*

"... I had a perfectly wonderful time on the Uintas Trail Ride (Utah). Our cook and helpers were certainly the best I have ever encountered on a camping trip."

*Mrs. Miron Williams Neal, San Francisco*

"... The Glacier Peak-Lake Chelan trip (Washington) was as nearly perfect as a trail trip could be. We couldn't have asked for anything better on our vacation."

*Mildred Woodford, Seattle, Washington*

"... A wonderful trip (Quetico-Superior canoe expedition). A most congenial party and again the planning and leadership were tops. Again, congratulations."

*Dr. W. N. Worthington, Roswell, New Mexico*

"... I have been in twelve national parks and have seen a lot of this old country, but I'll take that beautiful Snowmass (Colorado) area over all of them."

*Dr. Robert Viche, Denver, Colorado*

"... My introduction to the San Juan Wilderness (Colorado) with the Trail Riders will always remain as one of the most delightful experiences of my life."

*Miss Marian Dingley, El Cerrito, California*

## APPLICATION FOR RESERVATION

### THE AMERICAN FORESTRY ASSOCIATION

919 17th Street, N.W., Washington 6, D. C.

Date .....

Please make reservation for me on Trail Rider Expedition No. ....

My check for \$ ..... (\$25 Deposit on each reservation) is enclosed.

Name .....

Address .....

City ..... State .....

Age ..... Weight .....

Occupation .....

I am ☐ am not ☐ a member of The American Forestry Association.

A deposit of \$25 is required with each reservation, and the full cost must be taken up thirty days before the scheduled date of the expedition. In the event of cancellation, a refund will be made only if the reservation cancelled is taken up by another rider.

In making this reservation, I affirm that my general health is good and that I am not affected by high altitudes; that I have had sufficient experience to ride a well-broken horse, that I accept as my personal risk the normal hazards of wilderness travel and will not hold The American Forestry Association responsible for injuries or illness resulting from such hazards.



## Key man in industrial forestry

Key man in modern forest management is the trained forester—harvester of today's logs, member of the team that keeps America's wood production high and permanent. Guardian of the young trees that will provide tomorrow's timber and jobs, he's a specialist in forest protection, utilization and reforestation. With his teammates, he protects the pay checks of the two million American workers whose jobs come from forest industries.

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## Six Months to Portland

(From page 23)

tour of the terrain and which leaves standing blocks of trees on either side. Since the strip cut is much narrower than the average block that is cut, Dr. Pearce suggests that it would be more difficult for wind to cut loose and uproot the trees left standing along the strips. Dr. Pearce will write in somewhat more detail on this in a future issue of *AMERICAN FORESTS* but now it serves to show that western foresters and forest engineers are continually exploring new and better methods—exploration that has come up with such ideas as portable spar trees mounted on tractors, bundled logs in water to lower the loss of sunken logs, and beeswax that is now being made from Douglasfir bark.

For hand in hand with the progress being made on both public and private forest lands, and a basic part of it, goes the work of the forestry schools in the region, the state forestry setups, the research centers and the experiment stations. Researcher Leo Isaac, working all day and lecturing every night on his recent trip to Germany, is a good example of this. The work of Dean Dunn and W. F. McCulloch at Oregon State's School of Forestry fits in neatly with the Northwest scheme of things. Dean Dunn believes in training men, not bookworms. At Oregon State, the students put on their tin hats and go to class in the woods on the campus, rain or shine. Up at the University of Washington men like Marckworth, Brockman, Bryant, Duffield, Gessel, Robertson, Shaeffer, Thomas and Grondel are providing the same useful service.

The state forest services in both Oregon and Washington are alert, heads-up organizations. Both services have contributed yeoman service in helping to write a splendid chapter in the prevention and control of forest fires. Now these organizations, with good cooperation from both public and private agencies, are attacking the threat posed by forest insects and tree diseases. On fire control, delegates to Portland this fall will see how the desolate Tillamook Burn is now being reforested. They will see how the combined agencies,

spearheaded by Albert Weisendanger's Keep Oregon Green movement and one equally potent in Washington, have wedged the importance of controlling fires deep in the conscience of the Northwest public. And now they are attacking the insects and disease problem with the same aggressiveness. One battle is now being won in Idaho and Montana where additional access roads money has enabled public and private foresters to start cleaning up great blocks of diseased timber. Similar battles will be waged in future months by Forest Pest Control Action Councils, as described by Ernest Kolbe of the Western Pine Association, now operating in five different states.

"Aren't these northwest foresters an unusually energetic crowd?" one asks Col. Greeley. "And don't most of them, as you talk with them on a stump in the woods or at their offices, seem unusually young—both in age and outlook?"

"Yes, they are energetic and they have a youthful outlook," Col. Greeley replied. "The same thing is true in the South. And the reason is they are alive to the fact that they are pioneers in an important piece of work."

There are a number of sound reasons why the proposed westward trek of the AFA appears to be opportune at this particular time. First of all, it will enable the members to study the accomplishment of Northwest forestry at a time when they are striving to activate a new Program for American Forestry. Needless to point out, the Northwest is the great timber stronghold of the nation. The originator of many outstanding innovations in forestry advance, the Northwest is a great force in American forestry today—a place where young graduate foresters are given just as much responsibility as they can handle as fast as they can take it.

Finally, on a trip to the Northwest one quickly learns that a certain kinship exists between people in this area and Easterners, particularly people in New England. New Englanders have helped to develop the

Northwest since the days when the first Popes and Talbotts sailed around the Horn from Machais, Maine. Many of the towns and cities have the stamp of New England upon them, with the landscape speckled with New England church steeples. To point this fact out in even more conclusive fashion, Jim Stevens, the nation's leading authority on Paul Bunyan, takes a visitor to his Congregational Church to his pastor's midweek lecture on early leaders of the denomination in Rhode Island. Stewart Holbrook was another Northwest writer who started listing the New Englanders he wanted present at the September meeting when informed of the event. Dwight Demeritt, of the Dead River Lumber Company, heads the list Holbrook plans to recruit when he visits his native New England this coming summer.

Another example of this New England influence was the fact that Northwesterners in listing people they would like to have take part in their program, invariably ranked Sherman Adams, the executive assistant to the President, high on their list. "Never mind the forestry, just get him to come out here and tell some of those stories about Hiram Blodgett," commented one forester who had attended the Fourth American Forest Congress.

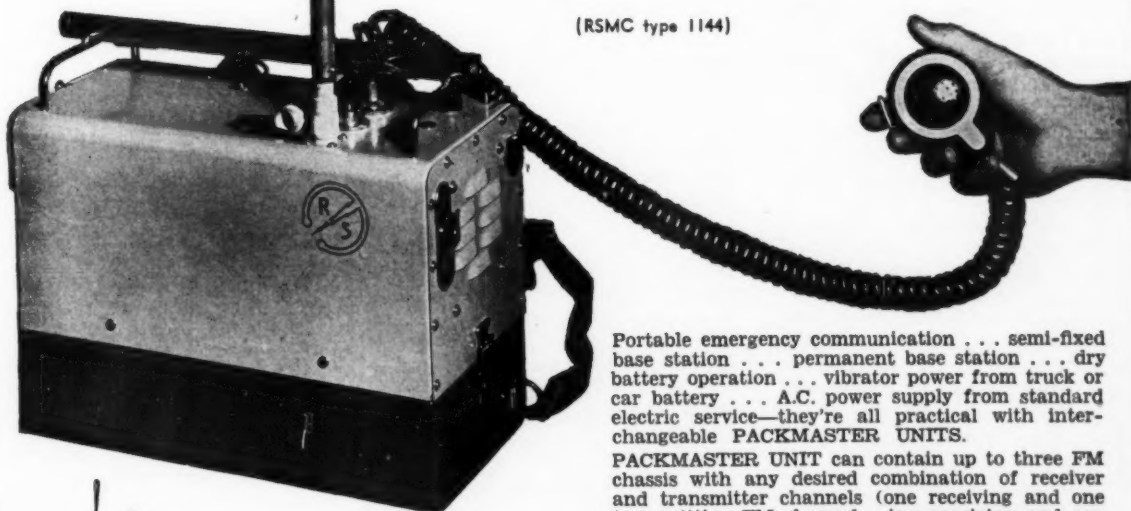
Yes, a Northwest annual meeting of The American Forestry Association has much to recommend it as friends of forestry everywhere continue in their efforts to cement good working relationships, iron out misconceptions, and strive in the effort to create an effective American forest policy. The big, capable men in the Northwest have much to contribute to this effort and their accomplishments in a region of tremendous growth clearly shows that both their progress and their problems should be given very careful attention and study by their friends and neighbors in the East. These are some of the reasons why this first Northwest meeting should prove one of the most notable in a long series of notable AFA forest conferences.

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Four FM Frequency bands: 30-40 mcs.  
40-50 mcs.  
152-162 mcs.  
162-174 mcs.

Hi Power —7.5 watts on 30-40 mcs.  
6 watts on 40-50 mcs.

Lo Power —1.5 watts on 30-40 mcs.  
1 watt on 40-50 mcs.  
.4 watts on 152-162 mcs.  
.4 watts on 162-174 mcs.

Weight—apx. 26 pounds with medium duty batteries.

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the PACKMASTER meets them all!

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Single or dual Channels

Power Source—  
Dry Batteries, AC,  
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Portable to portable,  
Mobile to mobile, Mobile  
to Portable, Portable to  
Main Station, Main Station,

Distances involved

Terrain

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## SPCA Goes After the Facts

(From page 19)

bama in displaying the strips prepared and showed 282 forestry exhibits viewed by 1.1 million people; sponsored conservation training camps in nine states in conjunction with the State Foresters, Extension Service, and Vocational Agricultural Departments; prepared a new film, "Paper and I," ready for release this year. Five other films were viewed by 103,000 people in 1100 separate showings; wrote forestry stories published in 1800 newspapers; conducted 923 school programs on forestry subjects for 58,000 students; contacted 71,000 people individually with a discussion of fire prevention and control, tree planting, cutting practices and other forestry matters; conducted 228 meetings for landowners attended by 5200 people; and sponsored 1022 demonstrations on good woods practices attended by 26,000 people.

Last year SPCA added something new in its continuing effort to aid private woodland owners. This was a new sampling system to gauge cutting practices on private woodlands worked out in conjunction with the Southern Forest Experiment Station of the Forest Service. A system that provides an accuracy of plus or minus one percent on cutting practices in woodlands sampled, it is based on the number of cords cut without reference to acreage. One sample is made for each 7000 cords of production for each member on non-company lands.

The classifications established by the association in this system are land clearing, clearcut, seed tree, partial cutting, thinning, and salvage. Most of these classifications are self-explanatory, Mr. Malsberger pointed out with the exception of "partial" and "thinning." A cutting is classified as partial, he explained, when there remains a maximum basal area (the sum of solid wood areas at 4½ feet above the ground of all the trees on an acre) of 40 square feet that continues growing. When the residual basal area exceeds 40 square feet it is classified as a "thinning."

Under this plan, using random numbers for selection of the producer to be sampled, the number of samples was reduced from 5914 in 1952 to 1450 in 1953. By the use of this mathematically-sound system a known degree of accuracy has been obtained.

SPCA's sampling results for 1953 show wood cut from non-company lands as follows: land clearing, 16 percent; clearcut, 25 percent; seed tree, 19 percent; partial, 16 percent; thinning, 16 percent; salvage, eight percent. This means that 41 percent of all the pulpwood now being purchased by the industry falls into the category of unwise forest management whether dictated by the owner or otherwise—"a very serious matter for all of us to ponder," Mr. Malsberger said.

One further matter brought to the attention of the association by Mr. Malsberger in connection with the sampling program was that "we are all in the habit of using the figure of about 185 million acres of forest land in the South, which is correct. In referring to this as a base, we can with assurance declare a practical balance between growth and drain of all species of all sizes.

"This, however, is not a complete statement and it should not delude anybody, particularly those of us directly concerned with the pulp and paper industry," Mr. Malsberger continued. "The fact, well known to you, is that only about 103 million acres in the South are classified as pine-growing land. It is on this 56 percent of forest area that our industry cut 88 percent of its supply in 1952. The remaining 12 percent of the cut was hardwood and it came from 44 percent of the forest area.

"If present and future growth predictions are to be realistic, the pine base of 103 million acres must be recognized rather than 185 million. This further emphasizes the need for bringing the cuttings up to a higher standard as rapidly as possible."

With realism the trademark of the association's meeting, Mr. Bailey declared that the "interests of the industry in the South will not be served by a policy of smugness with regard to the forest balance in its supply areas. We must be realistic and not deceive ourselves or others by coloring the reports of conditions as they are found, such as ignoring an important deficit in the growth of pine, which is in heavy demand, by quoting figures which show that, for all timber, the forest is in balance.

"Our trade and service associations must be fearless in reporting facts, good or bad, to the members, and to the public, or the timber

supply will continue to become more critical through wasteful practices and expansion, unwarranted by and unfounded by the basic raw material resources; and the importance of intensive forest management and reforestation will be discounted."

Mr. Bailey recalled that two years ago, Frank Heyward of the Gaylord Container Corporation, warned the executives of the industry about the danger of a *laissez faire* attitude with regard to the demand-supply situation as it affects the expanding industry in the South.

"What Frank said then is equally important today," Mr. Bailey said, "and every means at our command for placing the timber-growing lands of the South in maximum production should be explored and developed."

Mr. Bailey said that the goal should be, "Put every acre to work—that's good, practical forest management—make every acre work HARDER—that's applied research—make every acre grow better trees FASTER—that's basic research!"

Both Mr. Bailey and Mr. Niederhoff questioned the wisdom of present Forest Service policy with national forests in the South which, while "flanked to the south and to the north with pulp mills, still insists upon an objective for growing high-grade sawtimber on an 80-year rotation."

"Mutual interests and community stability would be better served if management policy, whether public or private, would show a sensitive response to industrial needs," Mr. Bailey said.

The fact that more and more southern newspapers are featuring sound forestry and trees as a crop in feature stories and editorials was brought out by Walter Amann, Jr., outdoors editor of the Knoxville *Journal*, at the conference. Most editors are conservation-minded, Mr. Amann said. And they are delighted when shown how their readership can find a new and substantial income.

"The newspapers have the readership; the foresters the know-how," Mr. Amann said, "And when the editor passes along your information to his readers, be prepared to be called on for demonstrations and more information."



# Virginia Forests Names Student Winners Of "Keep Green" Poster Contest

**M**EMBERS and friends of *Virginia Forests, Inc.*, acted as individual judges for the second annual Keep Virginia Green poster contest when they cast their votes at the recent annual meeting of that Association for what they considered to be the four best student posters. Their choice was made from a group of 14 posters which had been selected earlier as the outstanding entries from a total of 2210 received from 76 counties in the State.

Winners are: first place, Kenneth Dorward, 17, a junior at Fairfax High School, Fairfax; second place, Fairfax H. Settle, 14, a freshman at King George High School, in that county; third place, Bobby Silverthorn, 15, a sophomore at Hampton High School, Hampton; and fourth place, Roy Lee Williams, 16, a junior at Cradock High School, Portsmouth.

These winners will receive \$100, 75, 50, and 25, respectively, and will be given further recognition by having their posters reproduced in one color for distribution throughout the state during the coming spring months. In addition, the first place poster will be reproduced in full color on the back panel of nearly 300,000 book covers which will be distributed throughout Virginia during the early fall months.

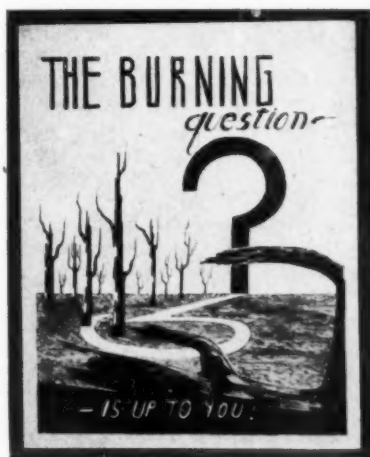
Honorable mention certificates and cash awards of \$15 each were won by the other ten students whose posters competed for top honors. A third group of 50 students won special mention certificates and cash awards of \$5 each, while a remaining group of 100 students will receive certificates of recognition. Finally, all of the 164 winners in this second annual contest will receive a copy of a book entitled, "Knowing Your Trees," as an additional remembrance award.

This contest, which is co-sponsored by *Virginia Forests, Inc.*, and the

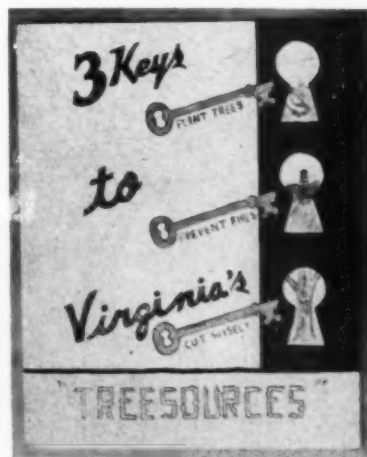
Virginia Building Material Association, was open to all students enrolled in the public schools of Virginia from the fourth grade through high school. And students from all grades were represented among the contest winners.

First place school honors, which were based on both quality and quantity of posters submitted, were won by Broadway High School, in Rockingham County, with a total of

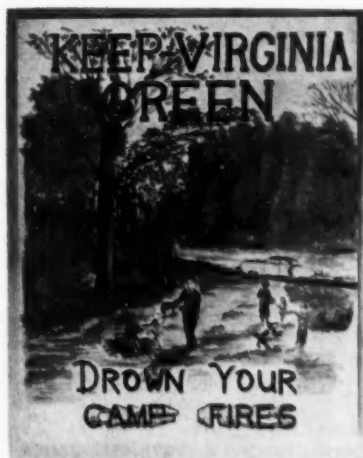
156 points. Second place went to Disputanta Grammar School in Prince George County for its total of 115 points; followed in order by Lane High School, Charlottesville, 108 points; Churchland High School, Norfolk County, 102 points; and Fairfax High School, Fairfax, with 96 points. The first two schools will receive plaques which they will hold until new winners are determined from next year's contest.



FIRST PLACE



SECOND PLACE



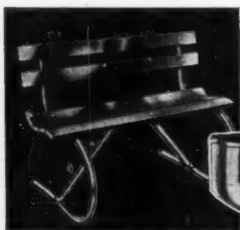
THIRD PLACE



FOURTH PLACE

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## Man With the Well-Turned Knees

(From page 30)

the sides, as one might in building up a mud pie in the shape of an inverted ice cream cone.

4) Like tonsils in a human, a cypress knee can be cut off without apparent injury to the parent tree. Yet if a tree is killed, the knees all die.

5) Some authorities hold that the knee is a breathing device for the period when the swamps are flooded and the roots are under water. But cypress trees breathe through their leaves, and you can cut off all the knees of a cypress and the tree will live. Also some trees stand for long periods with all roots and knees *completely* under water.

6) Other authorities claim the knee is a bracing device for the tree. But not all swamp cypresses have knees. Those without them seem to fare no worse than others from high winds or hurricanes.

7) Most standard reference books declare that the cypress knee is hollow. This is true only where the knee has been damaged by fire or falling limbs, and the damaged part decayed before new wood could heal the wound.

The cypress is one of the oldest forms of living vegetation on earth, its geological history going back to the Upper Cretaceous. Like California's redwoods, to which the cypress is related, it belongs to the ancients, as much as to today. Cypress knees themselves have been found that are estimated to be well over 2000 years old.

The swamp or bald (because it sheds its leaves in winter) cypress is a slow-growing tree that is found chiefly in the marshlands of the South, from Virginia to Florida and west to Texas. Its timber, nicknamed "the wood eternal," is valued for interior trim of houses, shingles, doors, fencing, cooperage, etc. Unfortunately it is being cut faster than nature can replenish it. More than half of the remaining crop of cypress is in Florida.

In his private collection of cypress knees Gaskins has examples that grew in Maryland, Delaware, Pennsylvania, Indiana, Illinois, and he has reports or photographs of cypress growing in Missouri, Ohio, Oklahoma, Rhode Island and New Jersey.

The largest cypress Gaskins himself has seen is not in the swamps

near Palmdale, but much farther north in Florida. Near Sanford there is a giant cypress, now preserved in a little Seminole county park off U. S. Route 17, that measures 47 feet around at the base and is 125 feet high. It is estimated to be 3500 years old. Oddly enough, no knees are visible around it, although they may be buried in the fill placed around the base so that tourists could get a closer look.

"There is a cypress near Memphis, Tennessee, which the Tennessee Game and Fish Commission believes is the oldest tree east of the Rockies, measuring 140 feet tall and 22 feet in diameter at the base," Gaskins declared. "It is also one of those bottle-based trees, tapering considerably from base to tip."

The people of the swamp country use a special forestry vernacular. Because cypress grows best in water, a group of cypress trees assumes the generally circular form of a pond or lake, tapering upward from short trees at the edge of the water to soaring giants in the middle. This dome-like formation, which from a distance resembles a low hill or mound, is known as "a cypress head." When cypress are strung out oblong, maybe half a mile or more, that is a "cypress strand." Down in Big Cypress Swamp, south of Lake Okechobee, in addition to cypress heads and strands there are pine islands, gum heads, cabbage (palm) hammocks, and oak hammocks. A hammock is a kind of an oasis of deep, rich soil in the midst of an area of sand or coral rock bearing sedge grass and scrub pine.

Although Gaskins started his venture as a manufacturer of decorative-useful objects, he is swinging more and more toward the idea that nothing practical should be made of a cypress knee.

"I feel that giving them a use other than purely decorative cheapens them," he declares. "Nature has already made them an object of art."

Gaskins had this feeling many years ago, but he couldn't quite convince art dealers, interior decorators, and the buyers for the big department stores. They said the public wouldn't want anything as abstract as a cypress knee. Then came the post-war vogue for surrealism and abstracts

(Turn to page 46)

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## Man With the Well-Turned Knees

(From page 44)

of all kinds. Meanwhile a lot of others have got into the business, using the methods of preparing the knee pioneered by Gaskins.

Gaskins still keeps on hand some of the stock that gave him his start, and which are still in demand—flower holders, wall vases, lamp stands, bookends, buttons, bar pins, ear bobs, bird houses, etc. Because it won't warp and never needs painting, cypress knee wood will always be perfect for such purposes.

From 1940-43 the major part of his business was in the production of natural wood bases for mounting small game. For squirrels and chipmunks he turned out a steep unfinished knee segment; for hawks and other land birds, a domed top; for ducks, a smooth flat base; and for owls and woodpeckers, a wall base. This line was discontinued in 1943.

For a time Gaskins asked for suggestions, promising to make a present to the proposer of the first of each new product made from a knee. Other objects that have been made from cypress knees or knee wood, in addition to those already mentioned, are:

Pipe holders, tea tiles, jewel and cigarette boxes, fruit and nut bowls, gun racks, smoking stands, book markers, picture frames, waste baskets, door knobs, thermometer bases, letter openers, wall plaques, knife holders, coin banks, floor lamps, hair clips, door stops, paperweights, clock bases, bed posts, etc.

To better display his growing collection of artistic pieces, Gaskins recently added a modern museum to

the swampside collection of buildings that includes also his home and a storehouse of goods for sale. The museum provides a proper setting for many of the odd, bizarre and breathlessly beautiful cypress knees he has found in the course of 19 years' work and study.

Here, too, are scores of photographs, letters, documents and other memorabilia relating to the cypress and the cypress knee, some of them sent to him by clients and customers, some by government officials and scientists, and some by fellow enthusiasts glad to find another who shares their interest. As one enthusiastic visitor describes it: "The place has anything you never saw before."

Gaskins has some ideas about attracting the tourist dollar that are as unique as the cypress knee business itself. Up and down Route U. S. 27 he has placed rustic signposts carrying messages designed to startle, or amuse, or just puzzle the passing motorist. This is hunting country and hunters like to take potshots at roadside signs as they drive along. So Gaskins suspended an empty beer bottle on a string from each sign, to give them a target. This has worked fine, except that now and then a tourist comes in to the museum and asks for a bottle of beer!

Another unique Gaskins policy: your money (\$1) back if any visitor to his museum feels that he really has failed to gain something from his visit. Of 13,274 visitors, only 12 could be given a refund. One woman's reason: "After all, it's just nature."

Along one wall a 40-foot mural of Fisheating Creek swamp, painted by Russ Smiley, condenses in one spot all of its strange flora and fauna. For visitors who have the time and do not mind getting a little sand in their shoes. Gaskins last year opened a new jungle walkway that leads beyond his house and the workshops straight into the eerie depths of Fisheating Creek swamp.

A raised and railed wooden walk, suspended by pipes driven into the cypress trees themselves, provides safe and easy access to a dank area covered with motionless black water. Long streamers of Spanish moss hang from the leafy canopy overhead. It is all very strange and unreal, like turning back the pages of history to the era of rain forests,



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with their lush vegetation and dinosaurs and other weird forms of life. On my visit I didn't even see an alligator. But I wasn't disappointed because everywhere cypress knees poked their tops above the water, for all the world like little gnomes trying to see what was going on above them.

When Gaskins decided in 1950 to build his museum he felt that those who would study his collection would also want to compare the exhibits with a live cypress tree and its knees close at hand. The logical place for the museum was close to U. S. 27, some distance from the swamp and the nearest cypress.

Why not transplant a cypress and its knees from the swamp, and then build the museum around it? Excellent idea, except that a cypress old enough to have several knees would be pretty large. Gaskins could find no record of a full-grown swamp

**GRAZING HEARING** — As American Forests went to press, hearings were being held by the House Committee on Agriculture on Rep. Clifford R. Hope's (R. Kansas) grazing bill (H. R. 6787). Among first witnesses were representatives of conservation groups who were pressing for effective multiple use advisory councils in grazing districts. They also were urging retention of a study on grazing fees called for in the bill. The action by conservation groups was a result of reported "emasculatation" of the councils and the study provisions in companion legislation (S. 2548) introduced by Sens. Aiken and Thye in the Senate.

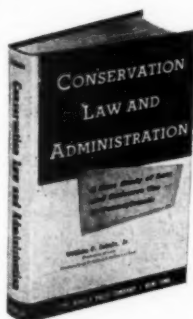
cypress ever having been successfully transplanted.

Nevertheless he resolved to try. During the dormant period, in January 1951, a medium-sized tree weighing about 12,000 pounds was dug up, hauled two miles by truck, and replanted. No soil preparation was done, but the tree has been watered constantly since. It must be doing all right, because it gave birth to a new knee in June 1952.

A brochure given to visitors describes this botanical feat and just about sums up Mr. Gaskins' philosophy and his struggle to found a new industry in the wilderness when it says:

"This is the tree THEY said would never be moved; which THEY said would never live, after it was moved; in the Museum which THEY said would never be successful; which Museum is the ultimate in the industry which THEY said would never be. Moral: Don't listen to THEY!"

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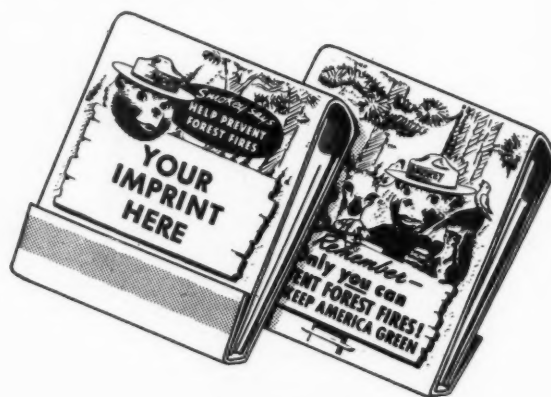


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## The California Condor

(From page 13)

ing, and will desert it if threatened or molested. It takes two years for a fledgling to grow to anything like self-dependence. That only 60 of these graceful soaring giants are on earth today shows the devastation they have undergone since the days when the broad valleys and vast hill country of central California were undiscovered by white men.

Restoration of the condor will take a long time, but the National Audubon Society and other friends of wildlife have argued that the California condor, bigger by far than his South American cousin of the Andes, is truly a magnificent creature. Many of the California birds enjoy a wingspread of 11 feet and more. Theirs is a soaring, triumphant life. Descending to the lowlands only for food, they own the impassable, lonely regions where the view is high, the ascent lofty.

It will be many years before one will be able to get a good look at the California condor. But those

who visit San Francisco's Golden Gate Park may see an excellent group in the Academy of Sciences' California Building. There, in a setting created by California artists, one may study fine specimens, with rocky crags and dead trees forming the natural habitat, shading off into realistic art work of the California valley plains far below.

Incidentally, should the reader of this piece feel curious as to how I took my photograph of this great bird, the answer is found in the above explanation. With camera in hand I scaled the steps leading into the California Building treading cautiously down the hallway so as not to disturb the haunts of the almost extinct bird. Then, with camera on tripod, and taking careful meter heading, I shot the California condor on Super XX film, 1 second at f 8.

And the bird wasn't disturbed one bit!

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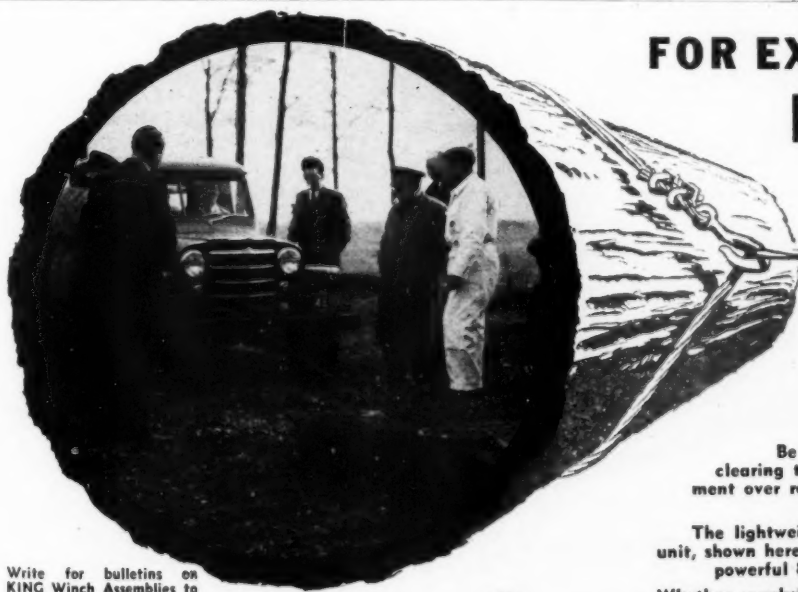
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## Meet the Mechanized Mule

(From page 27)

and scattered equipment over 50 or 60 feet of mountainside.

In spite of mishaps the crews got some work done. Their job was clearing the trails of rocks, brush, and the annual crop of blowdown timber that rapidly makes an obstacle course out of a trail through a lodgepole forest.

My job was to follow them around on a motor scooter and record the mishaps, the work done (if any), and the gripes about the food.

Our mechanical crews didn't maintain the trails as cheaply as the mule-supplied crews. But we found out why they didn't, and we confidently expect to be out in the hills with a better duffel carrier next season. Let the mules and muleskinners snicker.

Two of our crew members represent two points of view on this thing. Lawrence Alkire, foreman of one of the crews, is a real outdoorsman, a sort of man that you don't see much any more. He's been a trapper, tending trap line out by himself for weeks at a time in below-zero weather. Lawrence went into our job with an open mind; he was curious to see what the new gadgets would do. He still thinks they have possibilities, once we get the bugs out of them.

Ed Johnson, who worked with Lawrence, is also an outdoorsman of a sort. He worked for a while on a mule-supplied trail crew. The first time he was offered a chance to take a trail run with the "mechanical mule," he replied, "I ain't no relation to that son-of-a-gun." Toward the end of the season the work of Ed's crew ended, and Ed accepted a job with the mechanical crew. He performed his duties cheerfully, but he still doesn't believe that our gadgets will ever replace the four-legged mules.

Myself, I'm enthusiastic about scooters. They'll go almost anywhere, with their low-gear ratio and big, low-pressure tires. I put in 160 miles by scooter over mountain trails last season, and averaged six miles per hour. It beats walking with a pack on your back.

Carrying enough food was a big problem with the duffel carrier. It carried only five days' food and the crews wasted too much time going back to the ranger station for more. In the meantime the mule-supplied crews were making a ten-day trip and getting some trail work done.

Next year we hope to have a duffel carrier that will pack ten days' food—including steaks. Such a machine would give the mules a run for their money.

I think it's only a matter of time. Our machines are gradually getting more efficient—and the mules are getting less so. Good muleskinners are getting scarcer, which is one reason the Forest Service is interested in mechanization. Another is that the cost of keeping or renting mules is increasing. Mules will be needed yet for cross-country travel. But the whole sweep of our machine age is against our long-eared friends.

It's possible to feel sentimental about this. Oldtimers like Ed McKay of Darby, Montana, who were with the Forest Service for 40 years, would hate to see the mules go. And they're right. The mules are creatures of flesh and blood and feelings, and with remarkable personalities, some of them. And we're proposing to replace them with brute machinery. We're wrong, and we know it, and the only honest defense we can make is that we're keeping up with the rest of the world.

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## The Forest That Blew Away

(From page 16)

nate panels at six-foot and three-foot heights. The pattern most used was one which simply followed the contour of the beach, with a spur at every fourth panel to trap adverse winds.

The height of the dune was controlled by building a new fence on top of the dune as it formed, until the desired height was reached.

The depth of the barrier dune varied according to the type of sand. It was controlled by building one or more lines of fence and decreasing the number of such lines as the level of the dune rose.

After the fences were built and the first dunes completed by wind action, the next job began—the planting of grasses which would fix the sand in place and prevent the dune from “wandering.”

Again, armed with almost no precedents, Stratton experimented. He used local grasses, watched their behavior and finally settled upon four types which had the characteristics desired. Beach grass (*Ammophila*

*breviligulata*) was the ideal first step, because it has long, creeping rootstocks that go deep for moisture and enable it to live well in moving sand.

Cord grass (*Spartina patens*) was good in sand flats and salt marshes, because it can live in salt soil. Sea oats (*Uniola paniculata*) made a good permanent dune fixer; its deep roots propagate themselves and spread out in an intricate pattern which binds the sand in place. Wire grass (*Cynodon dactylon*) was the fourth kind, chosen for its good binding qualities and its ability to withstand drought.

The grasses were planted first on the barrier dunes, then on the barrens in the lee of the dunes. As the work progressed, plantings were made on moving dunes further inland and on the live woodland dunes in Buxton Woods.

As the barrier dune grew in length, the crews moved back to pin down loose sand and to halt the live dunes with a mulch of brush until

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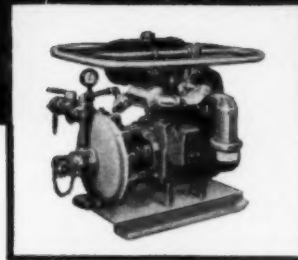


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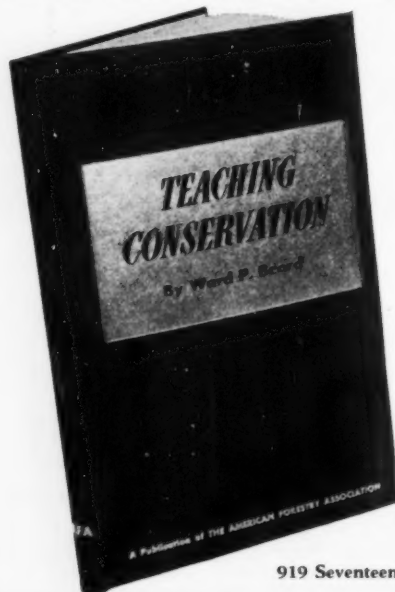
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grass could take root. Then, as the grass became permanent, shrubs were planted. Following this came tree plantings, the final step in the progression toward recovery of the ancient forest of the Banks.

Some of the trees and shrubs Stratton and his crews found native to the area (and thus best suited for the reforestation project) were: loblolly pine, black locust, dogwood, hickory, live oak, water bush, silverling, willow, red cedar, calicarpa, red bay, longleaf pine, shortleaf pine, red maple, sweet gum, persimmon, cypress, wax myrtle and white oak.

When the Park Service crews left in 1940, they left behind a record of accomplishment almost as fabulous as the land they had saved from ruin. A barrier dune had been constructed from the Virginia state line to Hatteras Inlet, varying from ten to 25 feet in height and from 75 to 300 feet in its base—a job man-made tools alone could not accomplish within a generation.

They had set 600 miles of fencing and had planted with grasses, shrubbery and trees a total of 141,841,821 square feet of sand, effectively halting the sand blast along the entire length of the Banks.

Stratton's crews planted a total of 2,552,359 tree seedlings and shrubs and, in the fragment of forest at Buxton, blanketed 1,222,000 square feet of encroaching dunes with mulch and pinned down another 950,000 square feet of blown-out area on the Sound side of the woods.

Fresh water fish returned to Currituck Sound, oyster beds were planted again, fish life that had become almost extinct returned in large numbers. The lighthouse was saved, the villages prospered, the songbirds and the waterfowl came back to the Banks, and it was even predicted that the lumbering industry one day would return to the islands once only a step removed from desert.

Today, Stratton is back again on his Banks, appointed project manager of the new park until land acquisition is completed. He has seen a new paved road built down the sands that he once saw blowing away before his eyes. And he has had the satisfaction of seeing his cherished Outer Banks finally placed in permanent custody of the Park Service, to be preserved as one of America's most fascinating examples of geology and to be nourished in careful hands until the forest that once blew away shall have completed its return to the Outer Banks of North Carolina.

## Mountains of the Moon

(From page 25)

bitter cold of the upper regions. Unaccustomed to constraining clothing, the natives often refuse to wear it, and all but freeze to death.

Stanley went up to 10,000 feet, and in the next few years a score of other expeditions made partial ascents. But the first explorers who went up in a big way were those led by an Italian, the Duke of Abruzzi, who, in 1906, set out in style with a large party. He left his calling card suitably enclosed in waterproof containers, in many remote and inaccessible spots, and collected a good deal of scientific data. Subsequent travelers have noticed a large number of rusted asparagus cans discarded by H.R.H.'s expedition.

In 1932 the Belgian government sent out a scientific expedition which really covered the area thoroughly, and a great mass of material was later published in Brussels.

Most explorers enter the Ruwenzori through the town of Fort Portal, in British Uganda, and passing through a papyrus swamp are soon in the terrific heat of the jungles

which surround these mountains. One of the major nuisances in such a trip is the necessity of carrying not only heavy waterproof clothing, and food, but quantities of fuel. The first couple of days are spent walking through elephant grass 12 feet high, which closes overhead as you pass through, so that you seem to be walking through a tunnel. The grass is painfully sharp, and often you are up to your knees in black slime.

Carveth Wells, who made the trip in the 1920's, further reported that higher up, black ants one-inch long were a painful nuisance, and that while water was always plentiful and streams sparklingly clear, the water had to be filtered, as it was filled with minute specks of mica, which produced severe stomach aches.

There are native villages up to about 6000 feet, and banana plantations and groves of fig and manioc trees, but as the traveler climbs higher and higher the temperature drops until it is extremely uncomfortable, particularly after the rain

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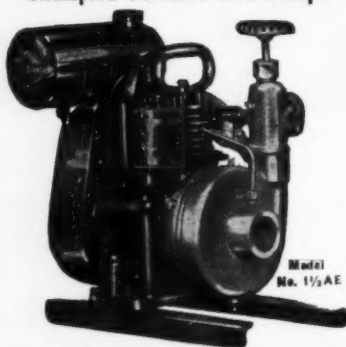
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has become a steady drizzle. Soon everything not tightly sealed becomes a sodden mess, and stays that way. The only animal found in any quantity is the hyrax which, while it makes gruesome screeches, is rabbit-like in appearance, quite harmless, and makes a good pet.

At about 6500 feet great masses of violets and other wildflowers appear, and the banana trees, which grow wild, have leaves 20 feet long, and inedible fruit filled only with seeds. Up here, too, the bamboos start, and feeding on the young shoots, are gorillas. As the climbers continue the bamboos become thicker and taller, forming a dense forest 50 to 90 feet high, which is infested with bats. Like everything else in this unnatural region, the bamboo grows with tremendous speed. The climbing gets steeper, and the twisted roots which cover the ground are wet and slippery. At times the trail is only a few feet wide, with steep falls on either side. Firewood is often hard to find, and even when it is soaked with kerosene it gives off more smoke than heat. The local tribesmen serving as porters are more interested in raw flour than hot food, and make themselves doughy balls of flour and water into the middle of which they poke a handful of rock salt. After a meal they all smoke a common pipe which passes from man to man, after the fashion of the ceremonial pipes smoked by the American Indians.

At around 10,000 feet, where the temperature is down to around 45 degrees, the area variously known as the Heath Forest, the Dead Forest or the Fallen Forest, is reached. This is in a valley several miles in extent, which is covered with an incredible jumble of fallen heather trees—members of the same family as the British heather which grows about six inches high—but here reach a fantastic 30 feet. Some of these tree trunks are scores, even hundreds of years old, for trees decay very slowly in this forest.

To make progress more difficult, ground, logs, and trees are covered with a spongy mattress of red, yellow, green and silvery moss from two to three feet thick. The trees still standing are so covered with blobs of moss and long, beard-like streamers of lichen hanging from every branch, that the original shape of the trees is quite lost. Jumping from one fallen tree trunk to another is like passing over a water-soaked feather bed, and unless you step carefully, big chunks of the moss will slough

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off, so that you will drop into the deep holes between the tree trunks, which are often filled with sharp splinters.

Most startling of all, travelers report, is the absolute silence in this unnatural world. There are no birds in the trees, nor is there any other evidence of animal life.

Around 13,000 feet the giant heather disappears, but orchids, and garlands of pale green lichen are still found. Actually, this is what we would call timberline, and while there are no more true trees, weeds and vegetation grow to be 50 to 60 feet high! Giant Lobelias, sometimes 30 feet high, appear, with rosettes of blossoms several feet across. Parsley and other plants which are six to 12 inches high in European and American gardens grow to be eight to 15 and even 20 feet high. The most common plants are the ground-sels—big woody stalks with clumps of leaves at their tops—which give the landscape a fantastic appearance. The sky is visible now, and there are many open spaces.

The ground is swampy, and in the black muck grow big round knobs or tufts of grass two or three feet high. It is possible to travel by jumping from one knob to another, but if you slip, you soon look pretty grotesque yourself—your upper half will be completely white from the falling snow, while your lower half will be pitch black from the swamp muck.

At the next level travelers find themselves just below the ice cap—which may be, some have suggested, the remains of the last ice sheet to cover much of the world thousands of years ago. There are special dangers up here, for immense chunks of this ice often come roaring down into the valleys. There is some animal life up here—among other things spiders, long-legged flies, and small blue hummingbirds which feed on the insects they find in the Lobelia blossoms.

Up at these levels climbers also encounter, on occasion, the phenomena known as St. Elmo's Fire, a kind of static discharge found on ships' masts and mountain tops. All objects and people are covered with a small, blue, crackling, flame-like discharge. Startling, but harmless.

Finally, from about 15,000 feet on up to the top, there is nothing but snow and ice. It is nearly always below freezing, and few visitors stay much longer than they need to, to make secure their claims to having reached the top.

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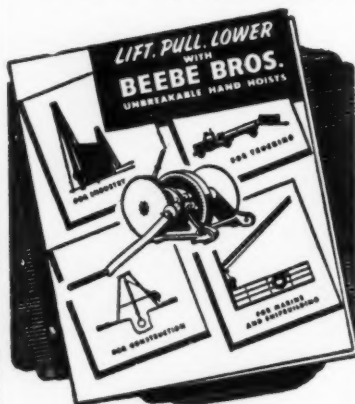
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## Reading About Conservation

By ARTHUR B. MEYER

WHEN I noticed that the price of *The Macmillan Wild Flower Book* (Text by Clarence J. Hylander, illustrations by Edith Farrington Johnston. Macmillan. 480 pp. \$15) was so high I wondered why. When I opened its pages I saw why. It contains beautiful and accurate reproductions of water colors of over 500 plants that grow in the United States east of the Rockies, although the range of some plants extends farther west. The book also includes descriptions of the plants, giving both scientific and common names. Plants are grouped by families with a brief introductory description of each family and then a brief, but adequately detailed, description of each species illustrated. This covers, besides the common and scientific names, size, appearance, habitat, and geographical location. An introduction defines the minimum of botanical terms necessary for identification and a simple and practical botanical key at the end of the book enables the reader to identify the species covered in the book. The text author is a well-known botanist and the artist has had three other books illustrated by her excellent water colors. This beautiful work will be a prized possession for those who know, or would learn, the beauty of wild flowers or the intense interest that comes from their careful study as individual, identifiable specimens.

### Lust for Life

*Incredible Seney* (By Lewis C. Reinmann. Northwood Publishers. 190 pp. \$3.95) is a character study of a lusty lumber town and of the lumberjacks who made it one of the most notorious in the north woods.

The book describes Seney as a lumber town, halfway between Sault Ste. Marie and Wakefield, that during the eighties and nineties was said to have been the toughest town in Michigan's Upper Peninsula. It had the reputation of having "out-cut, out-logged, outfought, outdrank and outspotted the rest of the world in its heyday."

To have actually earned this reputation in a nation whose pioneer

communities have not been noted in history for their temperance, chastity, and sobriety, would indeed have been an accomplishment. The book gives evidence, however, that there was considerable justification for such a claim to "fame."

The town was a lumberjack's town, its character the lumberjack's character, and so the author tells of its history by focusing upon individual personalities and reported incidents. Tim Kaine, Silver Jack Driscoll, Dan Dunn, the Pot Hill Gang and P. K. Small log, fight, drink, and sport through the pages of the book. Reimann points out, too, the good qualities of the "jacks." "No matter how indifferent or case-hardened the outer man might have appeared, there usually lived inside that rugged interior a deep feeling which could be aroused by a friend's affliction, the magic presence of a good woman or the touch of a child's hand."

The writer has tried to make the book a factual account, relying on written records and on word-of-mouth accounts from still-living old-timers. As a result, the recounting of particular incidents is occasionally too sketchy for the full development of reader interest, and sometimes the shifting scene is hard to keep up with. But all in all the author has done a good job of accomplishing what he set out to do—to record the character of a north woods logging town and give an insight into the nature of the lumberjack who made that character one that seems incredible almost three-quarters of a century later.

### Youth to the Rescue

*Son of the Forest* (By Arthur H. Carhart. Lippincott. 244 pp. \$2.50) is a fictional book written for the younger reader. The hero, Jim Craighead, is the high school-aged son of a trouble-shooting ranger in the Forest Service who has been sent to a national forest district in Colorado to settle a serious disagreement between stockmen and the Service. Jim comes to spend the summer with his father. The lad becomes involved

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in the tensions and outright hostilities inherent in the situation and, with the young friends that he makes in the ranger's district, helps to solve the situation when it reaches a crisis. A good story, with the feel of the outdoors in it and carrying, without any lecturing, a lot of facts about nature and the task of conservation. Recommended reading for any boy or girl who likes a tale of adventure placed outdoors. Its basic tensions are developed from the very real problems of multiple use of public lands.

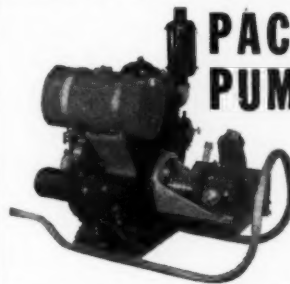
#### Guide to Better Management

*Developing Farm Woodlands* (By John F. Preston. McGraw-Hill. 386 pp. \$4.50) is a book by an authority on his subject. Mr. Preston has served as forest supervisor, assistant regional forester, and forest inspector with the U. S. Forest Service. He spent 11 years with a large paper company and was chief of the forestry division of the Soil Conservation Service from 1936 to 1946. He has devoted much thought and effort to bringing about improved handling of the nation's 139,058,000 acres of farm woodland. He was among the first who recognized the farm woods as an integral part of the farm enterprise and who sought to gear its management into the farming operation. He has often called attention, in his work and previous writings, to the unique advantages for good woodland management inherent in the farmer's situation. The farmer has periods of slack demand on his labor and equipment during which he can profitably work in the woods. He usually has a home market for low-grade material and can undertake operations in his woods that are impossible for the large timberland owner. There are actually factors present in the small woodland picture that might make it possible some day for this ownership class, composed mostly of farmers, to become the most progressive rather than the least progressive of all groups in woodland care and management.

This book undertakes to move a step toward such a goal by giving "practical advice and directions for doing important jobs that are essential to the successful handling of small acreages of woodland for profit."

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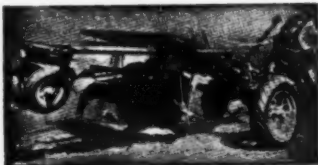
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estry. The farmer who masters the techniques of modern farming can also readily learn the requirements of the particular tract of timber in his possession. As in other fields in the science of agriculture, the owner can usually find available technical assistance from trained specialists to solve knotty problems. But he can, if he wishes, do a quite competent job of common-sense, practical management. Preston's book not only presents evidence to help the woodland owner appreciate the advantages of handling his timber properly, but also gives him advice on how to go about it.

Doubtless some critics will say that the author has oversimplified the task by presenting various rules of thumb for situations in which the professional would work out specific solutions. Others will say that the book is too technical for general use. Admittedly, the balance between giving the required scientific facts while still not overburdening the man who would do a good practical job in the woods is not easy to define. There can be no question, however, that the small woodland owner who wants to successfully handle his small acreage for profit can advantageously undertake to do so with the help of *Developing Farm Woodlands*.

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## A Farmer's Forester

By JOHN F. PRESTON

**I**N AUGUST of last year a man emerged from the ranks of the army of those engaged in the practice of forestry who is, I think, entitled to be classified as indicated in the title of this article. He is not a professional forester because there is a lot of what is taught in forestry schools that he does not know. He is not an agriculturalist because he does not know a lot of the things required of a trained agricultural technician.

His name is Francis M. Burke of Black River Falls, Wisconsin, an employee of the state department of conservation in fire protection and forest management since 1931. He is entitled to be classified as a farmer's forester (perhaps the first of a long list) by virtue of his graduation from the Correspondence Course in Farm Forestry conducted by the U. S. Department of Agriculture Graduate School. No degree was given to Mr. Burke when he completed the course; no graduation exercises were held; there was no parade; there was nothing to mark the event except a very small signed card delivered to the graduate by mail certifying that he had earned two credits in the Graduate School.

The significance of all this is that the correspondence course sets a different standard for training men who dare to teach farmers how to develop and manage their farm woodlands. Let's take a look at this new forestry taught by the Graduate School USDA. The course is planned so that the student will learn just enough about farming (especially farm economics) to enable him to talk to farmers about how forestry can help them to make a better living from the soil; and only just enough forestry principles and practices to enable them to teach farmers all that they can use in their farm business.

This is the way the course is described in the 1953-1954 catalog:

*A course in growing of wood as a farm crop. Principles of forestry as integrated with the farm business, and as contrasted with commercial forestry. The management of woods on the farm; development of a farm woodland enterprise. Designed to assist those who teach agriculture or*

*assist farmers in its practice, professional foresters, and farmers to apply forestry techniques to the special problems of growing wood as a farm crop. Students should have access to a farm woodland since some of the lessons require actual observation. Cost: \$18 plus \$5 supplies and postage fee, plus text.*

The course was started the last months of 1952. Its 15 lessons cover the following subjects: farm woodland-farm economics, basic farm forestry problems, goals of farm forestry, establishing a farm woodland enterprise, ecology-forest soils, wildlife forest protection, natural reproduction, seeding, planting, weeding-thinning, pruning tree crops, improvement and harvest cutting, controlling the amount of cut-regulation, estimating timber, measuring and marketing wood products, farm wood industries.

It will be seen from the above list that the first six lessons are devoted to woodland-farm economics and biological relationships. The last nine lessons cover the simple forestry practices that an interested farmer can understand and apply. Some subjects that could profitably be included, for example, logging and utilization, are omitted for lack of time. These subjects are important to farmers but application is highly localized. The student or teacher or farmer, if he is not already informed on these subjects, can learn by a study of the many publications on the subjects, and by visiting local woods operations.

The course is designed to teach, not farm forestry in all of its phases, but the growing of wood as a farm crop. In the opinion of the instructor, this is a vastly different thing. Although there are minor exceptions, in general, this means: 1) selling processed products, not stumpage; 2) farm organization so as to fully utilize, in woods work, the farm labor not profitably occupied with other duties; 3) annual cutting of wood products for use or sale plus cultural operations in the woods; 4) the farmer becomes the active manager of his woodland enterprise, planning the development of his growing stock, supervising the cutting of wood products for home use

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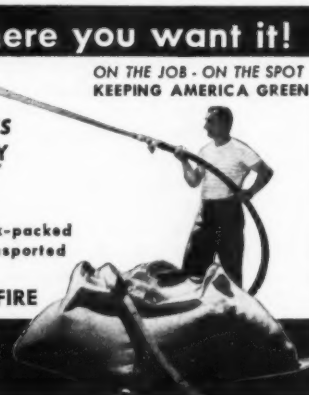
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or for sale, and marketing the products that he wishes to sell.

I think it will readily be admitted that this is a little different concept of the scope of a farm forestry education. Primarily, it does not include commercial forestry. This means that if the farmer is unwilling to assume the same responsibility for his woodland crop that he does for his other farm crops, this course would not interest him and its graduates would not be able to help him. He needs a regular full-fledged forester who will either manage the woods for the farmer or who will help him to find a timber buyer who will manage the woods for him. There are still some farmers who are unwilling to consider wood as a farm crop. They will have nothing to do with it. As one farmer in Wisconsin said, "I'm a dairy farmer, not a lumberjack."

We have found a few students who want to learn only "lumberjack" farm forestry, and when they find that this course includes a little different field, they are no longer interested. Farm economics and biology sounds to them a little too far afield from farm forestry.

At this writing there are 18 students enlisted in the course, mostly forest rangers, conservation aids, a few whose jobs are not clear, one consulting forester and one tree expert. We hope that some of the farm foresters who are graduates of professional forest schools will find the course worthwhile, and perhaps some of the seasoned extension foresters might find some new ideas in the course too. The farmers need help badly in getting wood established as a farm crop, and they need help too in marketing wood products in small lots.

## Letters

(From page 4)

est progress has occurred in recent years and will occur, I think, in the years ahead. It is for this reason that I think you and I and everyone else who believes that private ownership can be relied upon to produce tree crops, should constantly be on the alert for every opportunity to so state.

There are many who do not share our confidence in private ownership, and although the accomplishments of industry the last decade or two have silenced them in part, they are still highly vocal, and upon occasion, bitterly critical. Men in positions such as you hold have opportunity to pay compliments where and when due, and attention focuses upon such compliments because of your position. It was for this reason that I experienced some feeling of disappointment that your message did not make reference to private ownership.

Leo V. Bodine

Executive Vice President

National Lumber Manufacturers Assn.

(Editor's Note—No slight was intended but

rather a compliment to America's enlightened private timber owners who are all well represented in the "many organizations" referred to by Mr. Johnston.)

## The Pulpwood Question

EDITOR:

I have just read with a great deal of interest H. H. Chapman's article about the land ownership issue in East Texas in AMERICAN FORESTS for January 1954. This article is a very fair and honest presentation of the facts, as a great many of us here in the South see them. Having had a part in the long, hard fight over the controversial subject of prescribed burning, as well as the matter of commercial thinnings for pulpwood in young pine stands, I can appreciate the earlier problems many years ago here in the South. As before, Dr. Chapman has done all of us a great service.

I am rather perturbed also about this matter of converting much of our pine lands to the production of pulpwood alone, for I realize that once a farmer's small acreage is put into pulpwood production, there is a very good chance that it will always remain in that state, simply because he is not fully aware of the economics involved. Dr. Chapman is well aware, this problem has now shifted from pine-growing sites to hardwood-producing areas in this state, as well as other southern states. I think a great many of us foresters are aware of this problem but the industry and the landowner are going to have to give the matter more study.

This matter of breaking up the national forests and putting them in private ownership has been thoroughly studied and resulted in some legislative action here in Mississippi in the last eight or ten years. It has quieted down to a degree, and I hate to see it revived in Texas again, for I firmly believe that these national forest units have had a great part in the public awaken-

(Turn to page 63)

# What's NEWS across the nation

A CHARGE THAT "OFFICIAL LETHARGY" AND "CONSERVATION PROPAGANDA" are preventing the national forests from keeping up with today's forestry parade was made by W. D. Hagenstein, managing director of the Industrial Forestry Association, Portland, Oregon, at the annual convention of the American Paper and Pulp Association last month in New York City. A four-point program whereby the federal government would transform public forest lands from "luxurious playgrounds" into areas contributing to the national economy was urged by the Douglasfir forester. The four points were: 1) more timber access roads; 2) more adequate forest inventory; 3) less cumbersome timber sale procedures; 4) redetermination of allowable cuts on national forests.

EMPHASIZING THAT THE RESOURCES OF PUBLIC FOREST LANDS ARE NEEDED to meet the growing demand of America's rising population for jobs and products, Mr. Hagenstein said "No longer should anyone hide behind the 'multiple use' theory as an excuse for not practicing forest management on areas with commercial possibilities. Where a good job for forest management is accomplished, water supply, wildlife and recreational opportunities are assured." Pointing to "dramatic" forestry advances on private forest lands in the Douglasfir belt, Mr. Hagenstein said that industry leaders "have long recognized that the safest plant investment insurance they can obtain is well-stocked young forests of sufficient growing capacity to keep their wood-using facilities running perpetually."

A RECORD CUT OF 2,455,007,000 BOARD FEET OF TIMBER on national forest lands in the Pacific Northwest in 1953 exceeded the 1952 cut by 438 million board feet and represents 91 percent of the full cut allowable under the Service's sustained yield program, Regional Forester J. Herbert Stone reports. Value of the timber cut exceeded 36 million dollars. In summarizing accomplishments, Forester Stone said that while many problems remain to be solved that the year had been "exceptionally satisfying" in many respects. Continuation of the cooperative federal-state-private spruce budworm project saw aerial spraying of 369,000 acres of Douglasfir and white fir in western and northwestern Oregon, Mr. Stone said. Of the total sprayed, 329,000 acres were federally owned and 40,000 acres privately owned.

FORESTER STONE FURTHER REPORTS THAT IN WESTERN OREGON and southwestern Washington, 387 million board feet of windthrown and beetle-killed timber was salvaged during the first nine months of the year. Sales and access road programs are directed toward removing the estimated 1.6 billion board feet that remains. Federal entomologists report that the bark beetle infestation decreased during the year. The outlook is for continued decline unless wind storms of major proportions furnish additional down timber in which the beetles can spread, Mr. Stone said. Other major developments in the Northwest Region included production of over six million seedlings and transplant trees at Forest Service nurseries. Almost 11,000 acres of national forest land were restocked by planting and 800 acres seeded. In addition to commercial thinnings of timber stands through regular sales procedure, stand improvement work was completed on 21,385 acres in the region, Mr. Stone said.

(Turn to next page)



FOR THE FIRST TIME ON RECORD, THE NATIONAL FORESTS OF OREGON AND WASHINGTON went through a season without any fire reaching 300 acres in size, Mr. Stone said. The 1552 acres burned in 1953 is the lowest regional total ever experienced and is about half the area burned in 1948, the next lowest year. Success of the season was attributed by Mr. Stone "in no small part to favorable weather, cooperation of forest users, and efforts of the press, radio and TV industries in publicizing fire prevention." Mr. Stone further reported that Forest Service Sustained Yield Units policy underwent revision last year to clarify requirements for establishment of such units. Processing has now started on applications for the Wind River and Mt. Adams units in Washington under terms of the revised policy. Numbered among achievements in range management were reseeding of 918 acres of depleted forest range and spraying of 1,500 acres of impoverished range. More than 174,000 sheep and almost 85,000 cattle grazed on Northwest national forest rangelands under permit last year.

COMPLETION OF THE ALABAMA TIMBER CENSUS WAS ANNOUNCED last month by State Forester J. M. Stauffer and Philip A. Briegleb, director of the Forest Experiment Station of the U.S. Forest Service at New Orleans. In announcing the results, Mr. Briegleb said that the completion of the huge census was advanced almost two years through generous cooperation from Mr. Stauffer's state forestry personnel, the Tennessee Valley Authority, many members of the Alabama Forest Products Association, and other interested organizations. The report shows that forests cover 20,756,200 acres of the state's total land area of 32,689,920 acres. This is ten percent more forest land than in the middle 1930's when the first survey of Alabama's forests was made. "This means," said Mr. Stauffer, "that we have almost two million acres more forest in Alabama to protect from fire and manage wisely." Since the initial timber census 17 years ago, the total cubic volume of all merchantable trees has increased one percent. The softwood volume (mainly pine) has decreased five percent, while the hardwood volume has increased six percent.

THE FIRST FORESTRY STUDENT IN CANADA EVER TO BE AWARDED AN ATHLONE Fellowship for graduate study and practical training in the forest products industries in Great Britain is Louis Rousseau, class of '54 engineering student at Laval University, Quebec. The Athlone Fellowship Scheme, now in its third year of operation, carries the name of a former Governor General of Canada, the Earl of Athlone, and is designed to bring to Great Britain, every year, Canadian graduates in engineering for post-graduate work. The fellowships have a duration of two years.

SALE OF THE NATIONAL FORESTS IN TEXAS TO PRIVATE INTERESTS would be unwise and against the best interests of the economy and welfare of the people of the state and of the United States, the County Judges and Commissioners Association of the State of Texas declares. The association's sentiments were made known in a resolution passed in Dallas in December and was recently published in the Congressional Record (January 25, Page A490) as introduced by Congressman Jack B. Brooks. As reported in the resolution, the U.S. Forest Service in 1936 took 650,000 acres of almost worthless land and converted them into beautiful forests of pine that are now contributing to the support of Texas schools, maintenance of roads and provide healthful recreation. These forests—the Angelina, Davy Crockett, Sam Houston and Sabine—yield harvests of 100 million board feet a year under sustained-yield management, the resolution stated.

ELECTION OF E. B. BABCOCK AS PRESIDENT OF THE BOARD OF DIRECTORS of the Forest Genetics Research Foundation, at Berkeley, California, and Stephen N. Wyckoff to be executive vice president, has been announced by James G. Eddy, retiring board president. The Foundation is a private, nonprofit corporation whose efforts are devoted to assistance of research and education in forest tree improvement through grants-in-aid to schools and research agencies. The retiring president, Mr. Eddy, established the Eddy Tree Breeding Station at Placerville, California, and later deeded it to the American people by gift to the U.S. government. Since 1935, the station has been operated by the California Forest and Range Experiment Station of the Forest Service and is known as the Institute of Forest Genetics.



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## Letters

(From page 60)

ing to the importance of timber growing in  
 the South. I, personally, would not like to  
 see them interfered with.

John W. Squires  
 President  
 Mississippi Forestry Association  
 Jackson, Mississippi

## EDITOR:

Hearty congratulations on Chapman's ar-  
 ticle in AMERICAN FORESTS on "The Land  
 Ownership Issue in East Texas." I read it  
 with great interest and approval. I have  
 long felt that the apparent concentration of  
 the paper industry on production of pulp  
 and nothing else is a serious threat to wise  
 use in the public interest of its extensive  
 holdings. I remember asking a sawmill op-  
 erator near Summerville, South Carolina,  
 some years ago, what he thought of the ex-  
 tensive land acquisition program of the  
 West Virginia Pulp and Paper Company,  
 and his reply that he wondered if there'd  
 be any sawtimber left for the future when  
 they got through.

While this article applies primarily to the  
 local situation, it seems to me to carry a  
 needed warning against any broad move to  
 dismember the national forests, for the basic  
 reasons are much the same. I hope you will  
 hammer away on this subject, stressing that  
 protection of the public interest is not  
 counter to the welfare of private enterprise  
 in the long run.

William P. Wharton  
 Winter Park, Florida

## EDITOR:

Our congratulations and thanks to you  
 for the excellent coverage of the State For-  
 estry Associations in the January issue of  
 AMERICAN FORESTS. Thanks especially for  
 the discussion on the "Land Ownership Is-  
 sue in East Texas." Professor H. H. Chap-  
 man's keen analysis of the proposals of the  
 East Texas Chamber of Commerce for the  
 sale of national forest timberlands in Texas  
 to private owners shows this to be contrary  
 to the best public interest. It is one of the  
 clearest statements of the value of our na-  
 tional forests that I have seen. Our con-  
 gratulations to Professor Chapman for writ-  
 ing this article and to AMERICAN FORESTS  
 for publishing it.

Fred R. Johnson  
 President, Colorado Forestry and  
 Horticulture Association  
 Denver, Colorado

## Beetle Proofing

## EDITOR:

... The article by O. A. Fitzgerald "Beetle  
 Proofing the Big Timber Country" in the  
 January AMERICAN FORESTS is greatly  
 appreciated. We consider it to be a fine  
 piece of constructive publicity.

P. D. Hanson  
 Forester, U. S. Forest Service  
 Missoula, Montana

## PRUNING FOR PROFIT

Bartlett Mfg. Co. now have a  
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 MEYLAN PRUNING SAW  
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## Feature Photo of the Month

*Photos used on this page will be of unusual rather than esthetic qualities and subject matter will be restricted to scenes, events, objects or persons related to the use, enjoyment or unique aspects of our renewable natural resources. For each picture selected AMERICAN FORESTS will pay \$10.*



Photo by George Ballis

Viewed closely, the texture of wood often resembles something entirely different. For example, this picture of a weathered stump in the Sierra Nevada foothills might be mistaken for an aerial photo of some vast crater, or possibly a great log jam

**OLD AGE NEVER  
BOTHERS  
AN INDIAN!**



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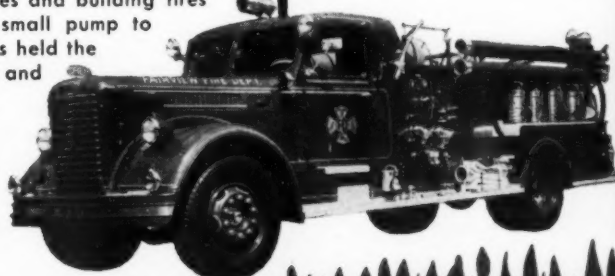
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Chief H. B. Wells,  
Newbury, S. C.

"Over a year ago, we discarded soda acid type extinguishers and equipped with INDIAN FIRE PUMPS which give great satisfaction with only clear water. We use INDIANS on roof fires and building fires that look impossible for a small pump to handle, but they have always held the fire until a line could be laid and in most cases, have the fire out before the line is laid. Our new truck came equipped with INDIAN FIRE PUMPS instead of the usual chemical extinguishers. We cannot praise the INDIAN too highly."

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## Gets a lot of work done for its size!

Wide furrow in one trip in third gear — a Cat D2 Tractor with fire control plow working for the Southern Advance Bag & Paper Co., near Jonesboro, La. Other rugged yellow units in the company's line-up: a D7, three D6s, ten D4s and two D2s.

THERE's a lot of power packed in this compact Cat\* D2 Tractor, one of a fleet of yellow rigs used by the Southern Advance Bag & Paper Co., Hodge, La. This company uses these tractors on the logging, clearing, planting and fire control jobs required in the intensive forest management of its 148,000 acre holdings. Here the D2 pulls a fire control plow in a timber management area near Jonesboro. Depending on soil conditions, the unit throws a wide furrow in one trip in third gear. Equipped with a tree planter, the D2 plants about 1½ acres of pine per hour in good going. With either attachment, it's easily trucked from area to area.

Power alone doesn't account for the D2's ability to get a lot of work done. That power is *matched* with weight and traction for maximum pull. Just as important, *all* parts of this rig are strongly built to keep it on the job and out of the shop—another factor in good production. An example of construction: track rollers and idlers are sealed to keep mud and dust out, and oil in, for longer wear. Another example: track shoes are made of rolled steel, heat treated for long life. All these and other details pay off in *more* work at *lower* cost with *less* down time than any competitive unit!

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